检测概要
Test Summary

报告编号 Report No.	T8-20220614-K997	报告签发日期 Date of test report	2022 年 8 月 1 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	361-00163-00	样品规格 Specification	3.87V 0.96Wh 250mAh	质量（g） mass (g)	3.9
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) 签发日期：2022 年 8 月 1 日
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	

Form No.: QF-QSP-LAB-1047-13C

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:	361-00163-00
Sample Model:	361-00163-00
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	361-00163-00		样品接收日期 Accepted date	2022-06-21
样品规格 Sample specification	3.87V 0.96Wh 250mAh		测试开始日期 Test start date	2022-06-28
样品数量(个) Sample quantity (pcs.)	48		测试结束日期 Test end date	2022-07-12
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	杨登 孙凯旋			
审核 Checker	李作为			
批准 Approval	李作为：技术负责人 Li Zuo Wei: Technical Director 郭佳丽:中心主任 Guo Jiali:Center Director			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 8 月 1 日

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（250mA CC to 4.45V ,CV to 5mA ）
测试用放电程序 Test discharge program	按照制造商推荐的放电程序进行（500mA DC to 3.0V）

测试样品图片
Test sample image

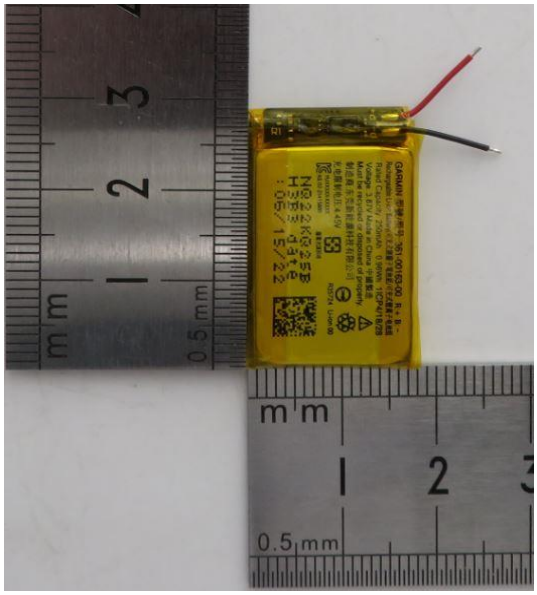


图 1：正面
Figure 1: Front side

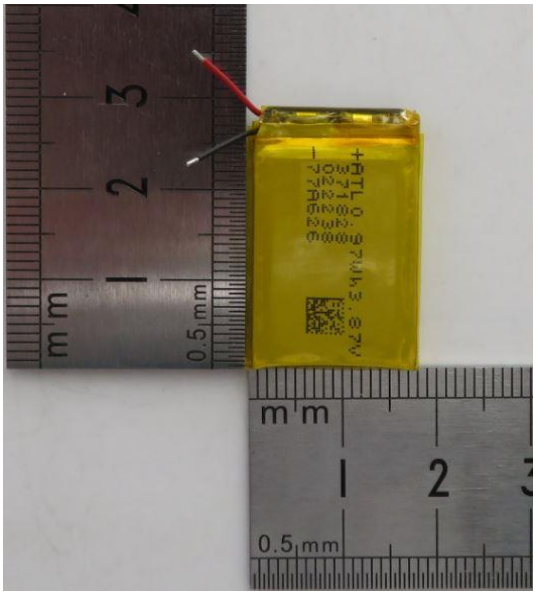


图 2：反面
Figure 2: Back side



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	NQ21KQ24BS MVC 361-00163-00	3.8758	3.8740	0.05	4.427	4.426	99.98	O
1cycle fully charged	NQ21KQ24BS MU3 361-00163-00	3.8710	3.8695	0.04	4.427	4.426	99.98	O
1cycle fully charged	NQ21KQ24BS MWV 361-00163-00	3.8734	3.8720	0.04	4.428	4.426	99.95	O
1cycle fully charged	NQ21KQ24BS MWO 361-00163-00	3.8298	3.8285	0.03	4.426	4.424	99.95	O
1cycle fully charged	NQ21KQ24BS MV5 361-00163-00	3.8742	3.8724	0.05	4.425	4.423	99.95	O
25cycles fully charged	NQ21KQ24BS MV9 361-00163-00	3.8457	3.8445	0.03	4.427	4.426	99.98	O
25cycles fully charged	NQ21KQ24BS MWU 361-00163-00	3.8437	3.8426	0.03	4.428	4.427	99.98	O
25cycles fully charged	NQ21KQ24BS MWS 361-00163-00	3.8780	3.8767	0.03	4.425	4.424	99.98	O
25cycles fully charged	NQ21KQ24BS MU5 361-00163-00	3.8599	3.8590	0.02	4.427	4.426	99.98	O
25cycles fully charged	NQ21KQ24BS MV8 361-00163-00	3.8522	3.8514	0.02	4.428	4.426	99.95	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	NQ21KQ24BS MVC 361-00163-00	3.8740	3.8743	-0.01	4.426	4.329	97.81	O
1cycle fully charged	NQ21KQ24BS MU3 361-00163-00	3.8695	3.8695	0.00	4.426	4.327	97.76	O
1cycle fully charged	NQ21KQ24BS MWV 361-00163-00	3.8720	3.8723	-0.01	4.426	4.327	97.76	O
1cycle fully charged	NQ21KQ24BS MWO 361-00163-00	3.8285	3.8289	-0.01	4.424	4.324	97.74	O
1cycle fully charged	NQ21KQ24BS MV5 361-00163-00	3.8724	3.8731	-0.02	4.423	4.323	97.74	O
25cycles fully charged	NQ21KQ24BS MV9 361-00163-00	3.8445	3.8450	-0.01	4.426	4.337	97.99	O
25cycles fully charged	NQ21KQ24BS MWU 361-00163-00	3.8426	3.8427	0.00	4.427	4.337	97.97	O
25cycles fully charged	NQ21KQ24BS MWS 361-00163-00	3.8767	3.8770	-0.01	4.424	4.333	97.94	O
25cycles fully charged	NQ21KQ24BS MU5 361-00163-00	3.8590	3.8589	0.00	4.426	4.338	98.01	O
25cycles fully charged	NQ21KQ24BS MV8 361-00163-00	3.8514	3.8518	-0.01	4.426	4.338	98.01	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	NQ21KQ24BS MVC 361-00163-00	3.8743	3.8725	0.05	4.329	4.327	99.95	O
1cycle fully charged	NQ21KQ24BS MU3 361-00163-00	3.8695	3.8697	-0.01	4.327	4.324	99.93	O
1cycle fully charged	NQ21KQ24BS MWV 361-00163-00	3.8723	3.8717	0.02	4.327	4.324	99.93	O
1cycle fully charged	NQ21KQ24BS MWO 361-00163-00	3.8289	3.8284	0.01	4.324	4.322	99.95	O
1cycle fully charged	NQ21KQ24BS MV5 361-00163-00	3.8731	3.8720	0.03	4.323	4.321	99.95	O
25cycles fully charged	NQ21KQ24BS MV9 361-00163-00	3.8450	3.8434	0.04	4.337	4.335	99.95	O
25cycles fully charged	NQ21KQ24BS MWU 361-00163-00	3.8427	3.8418	0.02	4.337	4.334	99.93	O
25cycles fully charged	NQ21KQ24BS MWS 361-00163-00	3.8770	3.8753	0.04	4.333	4.331	99.95	O
25cycles fully charged	NQ21KQ24BS MU5 361-00163-00	3.8589	3.8586	0.01	4.338	4.335	99.93	O
25cycles fully charged	NQ21KQ24BS MV8 361-00163-00	3.8518	3.8514	0.01	4.338	4.336	99.95	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	NQ21KQ24BS MVC 361-00163-00	3.8725	3.8736	-0.03	4.327	4.327	100.00	O
1cycle fully charged	NQ21KQ24BS MU3 361-00163-00	3.8697	3.8691	0.02	4.324	4.324	100.00	O
1cycle fully charged	NQ21KQ24BS MWV 361-00163-00	3.8717	3.8714	0.01	4.324	4.324	100.00	O
1cycle fully charged	NQ21KQ24BS MWO 361-00163-00	3.8284	3.8279	0.01	4.322	4.322	100.00	O
1cycle fully charged	NQ21KQ24BS MV5 361-00163-00	3.8720	3.8724	-0.01	4.321	4.321	100.00	O
25cycles fully charged	NQ21KQ24BS MV9 361-00163-00	3.8434	3.8445	-0.03	4.335	4.335	100.00	O
25cycles fully charged	NQ21KQ24BS MWU 361-00163-00	3.8418	3.8421	-0.01	4.334	4.334	100.00	O
25cycles fully charged	NQ21KQ24BS MWS 361-00163-00	3.8753	3.8765	-0.03	4.331	4.331	100.00	O
25cycles fully charged	NQ21KQ24BS MU5 361-00163-00	3.8586	3.8583	0.01	4.335	4.335	100.00	O
25cycles fully charged	NQ21KQ24BS MV8 361-00163-00	3.8514	3.8508	0.02	4.336	4.336	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 (℃)	测试现象 Phenomenon	备注 Remark
1cycle fully charged		NQ21KQ24BSMVC 361-00163-00	56.0	O	/
1cycle fully charged		NQ21KQ24BSMU3 361-00163-00	57.1	O	/
1cycle fully charged		NQ21KQ24BSMWV 361-00163-00	55.9	O	/
1cycle fully charged		NQ21KQ24BSMWO 361-00163-00	57.0	O	/
1cycle fully charged		NQ21KQ24BSMV5 361-00163-00	56.1	O	/
25cycles fully charged		NQ21KQ24BSMV9 361-00163-00	56.3	O	/
25cycles fully charged		NQ21KQ24BSMWU 361-00163-00	57.6	O	/
25cycles fully charged		NQ21KQ24BSMWS 361-00163-00	56.4	O	/
25cycles fully charged		NQ21KQ24BSMU5 361-00163-00	57.1	O	/
25cycles fully charged		NQ21KQ24BSMV8 361-00163-00	56.4	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 (℃)	测试现象 Phenomenon	备注 Remark
1cycle 50% capacity		02223877A314	24.5	O	/
1cycle 50% capacity		02223878A074	29.2	O	/
1cycle 50% capacity		02223878A443	25.9	O	/
1cycle 50% capacity		02223878A561	24.9	O	/
1cycle 50% capacity		02223878A394	24.8	O	/
25cycles 50% capacity		02223878A155	80.1	O	/
25cycles 50% capacity		02223877A467	28.4	O	/
25cycles 50% capacity		02223877A786	51.6	O	/
25cycles 50% capacity		02223877A571	60.5	O	/
25cycles 50% capacity		02223877A865	30.0	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		NQ21KQ24BSMV7 361-00163-00	O	/
1cycle fully charged		NQ21KQ24BSMV4 361-00163-00	O	/
1cycle fully charged		NQ21KQ24BSMV6 361-00163-00	O	/
1cycle fully charged		NQ21KQ24BSMWE 361-00163-00	O	/
25cycles fully charged		NQ21KQ24BSMWR 361-00163-00	O	/
25cycles fully charged		NQ21KQ24BSMWI 361-00163-00	O	/
25cycles fully charged		NQ21KQ24BSMU4 361-00163-00	O	/
25cycles fully charged		NQ21KQ24BSMWP 361-00163-00	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		02223878A639	O	/
1cycle fully discharged		02223878A596	O	/
1cycle fully discharged		02223877A335	O	/
1cycle fully discharged		02223877A167	O	/
1cycle fully discharged		02223878A732	O	/
1cycle fully discharged		02223878A298	O	/
1cycle fully discharged		02223878A654	O	/
1cycle fully discharged		02223878A741	O	/
1cycle fully discharged		02223877A569	O	/
1cycle fully discharged		02223878A665	O	/
25cycles fully discharged		02223877A935	O	/
25cycles fully discharged		02223878A643	O	/
25cycles fully discharged		02223877A596	O	/
25cycles fully discharged		02223877A602	O	/
25cycles fully discharged		02223877A429	O	/
25cycles fully discharged		02223877A797	O	/
25cycles fully discharged		02223877A227	O	/
25cycles fully discharged		02223877A738	O	/
25cycles fully discharged		02223878A302	O	/
25cycles fully discharged		02223878A523	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 consignation 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.

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