



NO.1123060549

检 测 报 告

Test Report

样品名称： 锂离子电池 HYLN-IMR18650-1200mAh 3.7V 1200mAh
4.44Wh

Name of Sample: Lithium ion Battery HYLN-IMR18650-1200mAh 3.7V
1200mAh 4.44Wh

委托单位:

Consignor:



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. 1123060549

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|-----------------------------|--|---|-------------------------|
| 样品名称 Name of Sample | 中文 Chinese | 锂离子电池 HYLN-IMR18650-1200mAh 3.7V 1200mAh 4.44Wh | |
| | 英文 English | Lithium ion Battery HYLN-IMR18650-1200mAh 3.7V 1200mAh 4.44Wh | |
| 样品编号 Sample No. | 1123060549 | | |
| 委托单位 Consignor | | | |
| 生产单位 Manufacturer | | | |
| 检测方法 Test method | 联合国《试验和标准手册》 ST/SG/AC.10/11/Rev.7&Amend.1 38.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 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&Amend.1 38.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 Section 38.3 | | |
| 样品外观 Appearance | 紫色 圆柱型塑料薄膜外壳 Violet Cylinder plastics film shell | | |
| 样品接受日期 Accepted Date | 2023-06-21 | 检测起迄日期 Test Date | 2023-06-30 ~ 2023-08-04 |
| 检测项目 Test Items | 高度模拟;热测试;振动;冲击;外短路;撞击;强制放电 Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Impact, 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&Amend.1 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&Amend.1 Section 38.3 生效日期(Date): 2023-08-04 | | |
| 备注 Comment | 可充电锂电池芯Rechargeable Lithium Cell./ | | |
| 委托单位地址 Consignor Address | / | | 邮政编码 Post Code |

批准
Approver:
职务
Title:

许彪

审核
Checker:

丁品

编制
Compiler:

傅俊

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&Amend.1 38.3 试验T.1 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 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&Amend.1 38.3 试验T.2 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 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&Amend.1 38.3 试验T.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 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&Amend.1 38.3 试验T.4 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 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&Amend.1 38.3 试验T.5 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 Section 38.3 Test T.5 | 见附表 5 See Appendix 5 | 合格 Passed | / | |
| 6 | 撞击 Impact | 联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7&Amend.1 38.3 试验T.6 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 Section 38.3 Test T.6 | 见附表 6 See Appendix 6 | 合格 Passed | / | |
| 7 | 强制放电 Forced discharge | 联合国《试验和标准手册》ST/SG/AC.10/11/Rev.7&Amend.1 38.3 试验T.8 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.7&Amend.1 Section 38.3 Test T.8 | 见附表 7 See Appendix 7 | 合格 Passed | / | |
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| 检测环境条件 Test Environment Condition | | 环境温度:20℃-25℃;环境湿度:/% Ambient temperature:20℃-25℃;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

Shanghai Institute of Chemical Industry
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 | | | | |
|---------------------------|--|------------------------------|-------------------|-----------------------------|-------------------|-------------------------|-------------------------------|----------------------------|
| 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 | 34.9675 | 4.14 | 34.9673 | 4.14 | 0.00 | 100.00 | ○ |
| 002 | 1CYC完全充电 1CYC Fully charged | 34.9898 | 4.14 | 34.9895 | 4.13 | 0.00 | 99.76 | ○ |
| 003 | 1CYC完全充电 1CYC Fully charged | 34.9825 | 4.15 | 34.9822 | 4.14 | 0.00 | 99.76 | ○ |
| 004 | 1CYC完全充电 1CYC Fully charged | 34.7514 | 4.15 | 34.7511 | 4.15 | 0.00 | 100.00 | ○ |
| 005 | 1CYC完全充电 1CYC Fully charged | 34.8887 | 4.14 | 34.8884 | 4.14 | 0.00 | 100.00 | ○ |
| 006 | 25CYC完全充电 25CYC Fully charged | 35.1474 | 4.15 | 35.1472 | 4.15 | 0.00 | 100.00 | ○ |
| 007 | 25CYC完全充电 25CYC Fully charged | 34.7866 | 4.15 | 34.7862 | 4.14 | 0.00 | 99.76 | ○ |
| 008 | 25CYC完全充电 25CYC Fully charged | 35.5665 | 4.15 | 35.5661 | 4.15 | 0.00 | 100.00 | ○ |
| 009 | 25CYC完全充电 25CYC Fully charged | 35.0715 | 4.15 | 35.0712 | 4.14 | 0.00 | 99.76 | ○ |
| 010 | 25CYC完全充电 25CYC Fully charged | 35.0530 | 4.15 | 35.0527 | 4.15 | 0.00 | 100.00 | ○ |
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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

Shanghai Institute of Chemical Industry
Testing Co., Ltd. Test Report—Appendix 2

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| 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 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 | 34.9673 | 4.14 | 34.9601 | 4.04 | 0.02 | 97.58 | 0 |
| 002 | 1CYC完全充电 1CYC Fully charged | 34.9895 | 4.13 | 34.9831 | 4.04 | 0.02 | 97.82 | 0 |
| 003 | 1CYC完全充电 1CYC Fully charged | 34.9822 | 4.14 | 34.9758 | 4.04 | 0.02 | 97.58 | 0 |
| 004 | 1CYC完全充电 1CYC Fully charged | 34.7511 | 4.15 | 34.7436 | 4.04 | 0.02 | 97.35 | 0 |
| 005 | 1CYC完全充电 1CYC Fully charged | 34.8884 | 4.14 | 34.8809 | 4.04 | 0.02 | 97.58 | 0 |
| 006 | 25CYC完全充电 25CYC Fully charged | 35.1472 | 4.15 | 35.1410 | 4.03 | 0.02 | 97.11 | 0 |
| 007 | 25CYC完全充电 25CYC Fully charged | 34.7862 | 4.14 | 34.7806 | 4.02 | 0.02 | 97.10 | 0 |
| 008 | 25CYC完全充电 25CYC Fully charged | 35.5661 | 4.15 | 35.5601 | 4.03 | 0.02 | 97.11 | 0 |
| 009 | 25CYC完全充电 25CYC Fully charged | 35.0712 | 4.14 | 35.0644 | 4.02 | 0.02 | 97.10 | 0 |
| 010 | 25CYC完全充电 25CYC Fully charged | 35.0527 | 4.15 | 35.0467 | 4.02 | 0.02 | 96.87 | 0 |
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备注：L-泄漏 V-漏气 D-解体 R-破裂 F-起火 0-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3

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Testing Co., Ltd. Test Report—Appendix 3

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| 序号 No. | 3 | 检测项目名称 Name of Test Items | | 振动 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 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 | 34.9601 | 4.04 | 34.9586 | 4.03 | 0.00 | 99.75 | O |
| 002 | 1CYC完全充电 1CYC Fully charged | 34.9831 | 4.04 | 34.9809 | 4.03 | 0.01 | 99.75 | O |
| 003 | 1CYC完全充电 1CYC Fully charged | 34.9758 | 4.04 | 34.9738 | 4.03 | 0.01 | 99.75 | O |
| 004 | 1CYC完全充电 1CYC Fully charged | 34.7436 | 4.04 | 34.7396 | 4.03 | 0.01 | 99.75 | O |
| 005 | 1CYC完全充电 1CYC Fully charged | 34.8809 | 4.04 | 34.8786 | 4.03 | 0.01 | 99.75 | O |
| 006 | 25CYC完全充电 25CYC Fully charged | 35.1410 | 4.03 | 35.1402 | 4.01 | 0.00 | 99.50 | O |
| 007 | 25CYC完全充电 25CYC Fully charged | 34.7806 | 4.02 | 34.7800 | 4.01 | 0.00 | 99.75 | O |
| 008 | 25CYC完全充电 25CYC Fully charged | 35.5601 | 4.03 | 35.5593 | 4.01 | 0.00 | 99.50 | O |
| 009 | 25CYC完全充电 25CYC Fully charged | 35.0644 | 4.02 | 35.0633 | 4.01 | 0.00 | 99.75 | O |
| 010 | 25CYC完全充电 25CYC Fully charged | 35.0467 | 4.02 | 35.0465 | 4.01 | 0.00 | 99.75 | O |
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| 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 | 34.9586 | 4.03 | 34.9570 | 4.03 | 0.00 | 100.00 | 0 |
| 002 | 1CYC完全充电 1CYC Fully charged | 34.9809 | 4.03 | 34.9808 | 4.03 | 0.00 | 100.00 | 0 |
| 003 | 1CYC完全充电 1CYC Fully charged | 34.9738 | 4.03 | 34.9724 | 4.03 | 0.00 | 100.00 | 0 |
| 004 | 1CYC完全充电 1CYC Fully charged | 34.7396 | 4.03 | 34.7393 | 4.02 | 0.00 | 99.75 | 0 |
| 005 | 1CYC完全充电 1CYC Fully charged | 34.8786 | 4.03 | 34.8778 | 4.03 | 0.00 | 100.00 | 0 |
| 006 | 25CYC完全充电 25CYC Fully charged | 35.1402 | 4.01 | 35.1400 | 4.01 | 0.00 | 100.00 | 0 |
| 007 | 25CYC完全充电 25CYC Fully charged | 34.7800 | 4.01 | 34.7796 | 4.01 | 0.00 | 100.00 | 0 |
| 008 | 25CYC完全充电 25CYC Fully charged | 35.5593 | 4.01 | 35.5583 | 4.00 | 0.00 | 99.75 | 0 |
| 009 | 25CYC完全充电 25CYC Fully charged | 35.0633 | 4.01 | 35.0626 | 4.01 | 0.00 | 100.00 | 0 |
| 010 | 25CYC完全充电 25CYC Fully charged | 35.0465 | 4.01 | 35.0458 | 4.01 | 0.00 | 100.00 | 0 |
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| 备注：L-泄漏 V-漏气 D-解体 R-破裂 F-起火 0-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

Shanghai Institute of Chemical Industry
Testing Co., Ltd. Test Report—Appendix 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 | 125.9 | O |
| 002 | 1CYC完全充电 1CYC Fully charged | 127.5 | O |
| 003 | 1CYC完全充电 1CYC Fully charged | 125.9 | O |
| 004 | 1CYC完全充电 1CYC Fully charged | 117.5 | O |
| 005 | 1CYC完全充电 1CYC Fully charged | 125.1 | O |
| 006 | 25CYC完全充电 25CYC Fully charged | 118.3 | O |
| 007 | 25CYC完全充电 25CYC Fully charged | 123.9 | O |
| 008 | 25CYC完全充电 25CYC Fully charged | 119.5 | O |
| 009 | 25CYC完全充电 25CYC Fully charged | 118.9 | O |
| 010 | 25CYC完全充电 25CYC Fully charged | 124.1 | 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 | 撞击 Impact |
|--|-------------------------------------|--|---------------------|
| 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 | 117.1 | O |
| 012 | 1CYC 50%容量 1CYC 50% Capacity | 112.6 | O |
| 013 | 1CYC 50%容量 1CYC 50% Capacity | 116.5 | O |
| 014 | 1CYC 50%容量 1CYC 50% Capacity | 112.2 | O |
| 015 | 1CYC 50%容量 1CYC 50% Capacity | 26.5 | O |
| 016 | 25CYC 50%容量 25CYC 50% Capacity | 114.7 | O |
| 017 | 25CYC 50%容量 25CYC 50% Capacity | 113.5 | O |
| 018 | 25CYC 50%容量 25CYC 50% Capacity | 112.9 | O |
| 019 | 25CYC 50%容量 25CYC 50% Capacity | 112.7 | O |
| 020 | 25CYC 50%容量 25CYC 50% Capacity | 116.0 | 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. | | | |

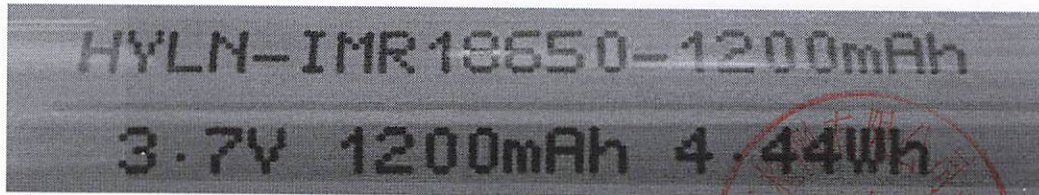
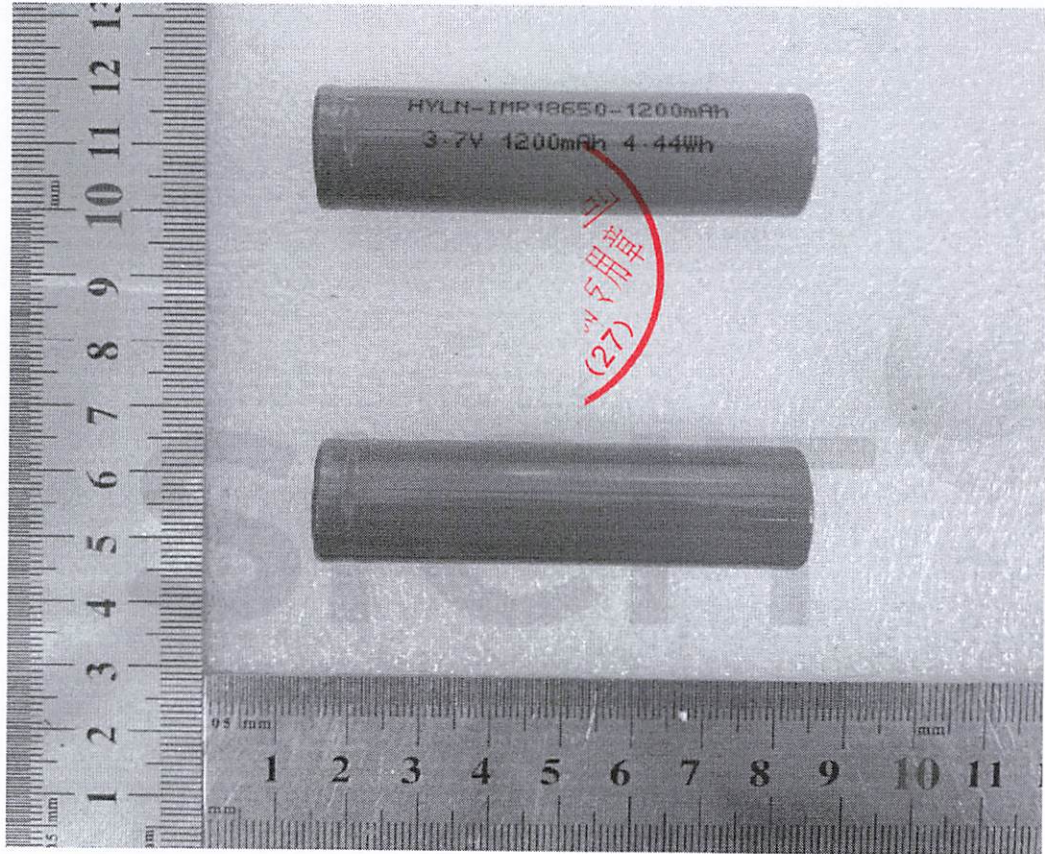
上海化工院检测有限公司
 检测报告-附表7
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| 序号 No. | 7 | 检测项目名称 Name of Test Items | 强制放电 Forced discharge |
|--------------------|-------------------------------------|------------------------------|--------------------------|
| 样品编号 Sample No. | 样品状态 Sample Status | 其他现象 Other Event | |
| 021 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 022 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 023 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 024 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 025 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 026 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 027 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 028 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 029 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 030 | 1CYC完全放电 1CYC Fully discharged | | 0 |
| 031 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 032 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 033 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 034 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 035 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 036 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 037 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 038 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 039 | 25CYC完全放电 25CYC Fully discharged | | 0 |
| 040 | 25CYC完全放电 25CYC Fully discharged | | 0 |

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.



报告结束