UN38.3 测试报告 UN38.3 Test Report

| 样品名称及型号 | 锂离子电池 BP7X |
|-----------------------|----------------------------|
| Sample Name &Model | Li-ion Battery BP7X |
| 委托单位 | 深圳市英蓓特科技有限公司 |
| Consignor | Embest Technology Co.,Ltd. |

深圳市倍通检测股份有限公司 Shenzhen BST Technology Co., Ltd.



Shenzhen BST Technology Co., Ltd.

| 样品名 Sample N | | | 里离子电池 l-ion Battery | | 样品型号 Sample Model | | BP7X | | |
|--|--------|--|------------------------|--------------------------|-------------------------|------------------|------------------------|----------------------------------|-----------|
| 委托单 Consign | - | 深圳市英蓓特科技有限公司 Embest Technology Co.,Ltd. | | | | | | | |
| 生产单 Manufac | | | | 深圳市亨 Shenzhen Lis | E 存特科技有 Power Indus | | Ltd. | | |
| 标称电 Normal V | | 3.7V | 额短 | 定容量 Capacity | 1820 | 1820mAh 6.7Wh | | 电限制电压 nited Charge Voltage | 4.2V |
| 充电电 Charge Ci | | 364mA | | 充电电流 Max Charge Curre | 1820 | mA | | 电截止电流 nd Charge Current | 36.4mA |
| 终止电 Cut-off Vo | | 3.0V | | 放电电流 harge Current | 1820 | 1820mA | | 芯额定容量 Cell Rated Capacity | 1820mAh |
| 内含电芯 Cells Nu | | 1Pcs | | 芯型号 Model | BP' | BP7X | | 商标 Trademark | / |
| 测试方法和 准 Test metho criterio | od and | 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.6, 38.3 UNITED NATIONS "Recommendations in the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6, 38.3 | | | | | | | |
| 样品接收 Accepted | | 201 | 17-09-28 | | 式起讫日期 Test date | | 2017-09-28~ 2017-10-23 | | |
| 测试项 Test ite | | 高度模拟、温度 Altitude simular Forced discharg | tion, Thermal | | | | | | ercharge, |
| 经测试,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.6, 38.3 标准要求。 The sample has passed the test items of UNITED NATIONS "Recommendations in t TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6, 38.3. | | | | | | ons in the | | | |
| 编制 Compiler: | 0. | aybrech | 审核 Checker: | W | e6 | 批; Appro | 准 | | zhuo. |

Report No.: BST17101005180001Y-1LR-2



Shenzhen BST Technology Co., Ltd.

标准要求或标准条款号 本项结论 序号 测试项目名称 测试结果 备注 Standard requirement or the clause Test No. Remarks Name of test Test result number of standard conclusion 高度模拟 联合国《关于危险货物运输的建议书 试验和 见附表1 合格 1 Altitude 标准手册》 See Appendix 1 Passed simulation ST/SG/AC.10/11/Rev.6, 38.3 试验 T.1 Test T.1 联合国《关于危险货物运输的建议书 试验和 温度试验 见附表 2 合格 2 标准手册》 Thermal test See Appendix 2 Passed ST/SG/AC.10/11/Rev.6, 38.3 试验 T.2 Test T.2 联合国《关于危险货物运输的建议书 试验和 振动 见附表3 合格 3 标准手册》 Vibration See Appendix 3 Passed ST/SG/AC.10/11/Rev.6, 38.3 试验 T.3 Test T.3 联合国《关于危险货物运输的建议书 试验和 冲击 见附表4 合格 4 标准手册》 Shock See Appendix 4 Passed ST/SG/AC.10/11/Rev.6, 38.3 试验 T.4 Test T.4 外部短路 联合国《关于危险货物运输的建议书 试验和 合格 见附表 5 5 External short 标准手册》 See Appendix 5 Passed ST/SG/AC.10/11/Rev.6, 38.3 试验 T.5 Test T.5 circuit 联合国《关于危险货物运输的建议书 试验和 挤压 见附表 6 合格 标准手册》 6 Passed Crush See Appendix 6 ST/SG/AC.10/11/Rev.6, 38.3 试验 T.6 Test T.6 联合国《关于危险货物运输的建议书 试验和 过度充电 合格 见附表7 7 标准手册》 Overcharge See Appendix 7 Passed ST/SG/AC.10/11/Rev.6, 38.3 试验 T.7 Test T.7 联合国《关于危险货物运输的建议书 试验和 强制放电 见附表8 合格 8 标准手册》 Forced discharge See Appendix 8 Passed ST/SG/AC.10/11/Rev.6, 38.3 试验 T.8 Test T.8 测试环境条件 环境温度: 20℃-25℃; 环境湿度: 45%-75% Test environment Ambient temperature: 20°C - 25°C ; Ambient humidity: 45%-75%condition

Report No.: BST17101005180001Y-1LR-2



附表 1 Appendix 1 Report No.: BST17101005180001Y-1LR-2

| Appendix 1 | | | | | | | | |
|-------------------|-------------------------------|--------------------|-----------|---------------------|----------|-----------|--------------|---------------------|
| 序号 | 1 | 测试项目名 | 古称 | 高度模拟 | | | | |
| No. | 1 | Name of Test Items | | Altitude simulation | | | | |
| ¥ 口 炉 口. | 样品状态 | 测试前 | Before | 测试后 | f After | 质量损失 | 电压损失 | 3501:424: 田 |
| 样品编号 Sample No | イ十 日日 1人 25 Sample status | 电池质量 | 开路电压 | 电池质量 | 开路电压 | Mass loss | Voltage loss | 测试结果 Test result |
| Sample No | Sample status | $m_I(g)$ | $V_I(V)$ | $m_2(g)$ | $V_2(V)$ | (%) | (%) | Test Tesuit |
| B1 | 首次完全充电 1 CYC Fully Charged | 35.856 | 4.17 | 35.856 | 4.17 | 0.000 | 0.00 | О |
| B2 | 首次完全充电 1 CYC Fully Charged | 35.767 | 4.18 | 35.767 | 4.18 | 0.000 | 0.00 | О |
| В3 | 首次完全充电 1 CYC Fully Charged | 35.732 | 4.17 | 35.731 | 4.17 | 0.003 | 0.00 | О |
| B4 | 首次完全充电 1 CYC Fully Charged | 35.744 | 4.18 | 35.744 | 4.17 | 0.000 | 0.24 | О |
| B5 | 首次完全充电 1 CYC Fully Charged | 35.797 | 4.18 | 35.796 | 4.18 | 0.003 | 0.00 | О |
| В6 | 首次完全充电 1 CYC Fully Charged | 35.863 | 4.17 | 35.863 | 4.17 | 0.000 | 0.00 | O |
| В7 | 首次完全充电 1 CYC Fully Charged | 35.788 | 4.18 | 35.788 | 4.18 | 0.000 | 0.00 | О |
| В8 | 首次完全充电 1 CYC Fully Charged | 35.858 | 4.17 | 35.858 | 4.17 | 0.000 | 0.00 | О |
| В9 | 首次完全充电 1 CYC Fully Charged | 35.834 | 4.18 | 35.834 | 4.18 | 0.000 | 0.00 | О |
| B10 | 首次完全充电 1 CYC Fully Charged | 35.763 | 4.18 | 35.762 | 4.18 | 0.003 | 0.00 | О |
| 以下空白 | | | | | | | | |
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注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火

Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire



附表 2 Appendix 2 Report No.: BST17101005180001Y-1LR-2

| Appendix 2 | | | | | | | | |
|------------|-------------------------------|--------------------|-----------|--------------|----------|-----------|--------------|---------------------|
| 序号 | 2 | 测试项目名 | 吕称 | 温度试验 | | | | |
| No. | 2 | Name of Test Items | | Thermal test | | | | |
| 14 日 20 日 | + + | 测试前 | Before | 测试后 | f After | 质量损失 | 电压损失 | 3444年 |
| 样品编号 | 样品状态 | 电池质量 | 开路电压 | 电池质量 | 开路电压 | Mass loss | Voltage loss | 测试结果 Test result |
| Sample No | Sample status | $m_I(g)$ | $V_I(V)$ | $m_2(g)$ | $V_2(V)$ | (%) | (%) | rest result |
| B1 | 首次完全充电 1 CYC Fully Charged | 35.856 | 4.17 | 35.848 | 4.14 | 0.022 | 0.72 | 0 |
| B2 | 首次完全充电 1 CYC Fully Charged | 35.767 | 4.18 | 35.758 | 4.14 | 0.025 | 0.96 | О |
| В3 | 首次完全充电 1 CYC Fully Charged | 35.731 | 4.17 | 35.724 | 4.13 | 0.020 | 0.96 | О |
| B4 | 首次完全充电 1 CYC Fully Charged | 35.744 | 4.17 | 35.736 | 4.13 | 0.022 | 0.96 | О |
| B5 | 首次完全充电 1 CYC Fully Charged | 35.796 | 4.18 | 35.788 | 4.15 | 0.022 | 0.72 | О |
| В6 | 首次完全充电 1 CYC Fully Charged | 35.863 | 4.17 | 35.856 | 4.14 | 0.020 | 0.72 | О |
| В7 | 首次完全充电 1 CYC Fully Charged | 35.788 | 4.18 | 35.779 | 4.14 | 0.025 | 0.96 | О |
| B8 | 首次完全充电 1 CYC Fully Charged | 35.858 | 4.17 | 35.851 | 4.13 | 0.020 | 0.96 | О |
| В9 | 首次完全充电 1 CYC Fully Charged | 35.834 | 4.18 | 35.827 | 4.15 | 0.020 | 0.72 | О |
| B10 | 首次完全充电 1 CYC Fully Charged | 35.762 | 4.18 | 35.754 | 4.14 | 0.022 | 0.96 | О |
| 以下空白 | | | | | | | | |
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注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火

Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire



附表3 Appendix3 Report No.: BST17101005180001Y-1LR-2

| Appendix 3 | | | | | | | | |
|--------------|-------------------------------|--------------------|-----------|-----------|----------|-----------|------------------|-------------|
| 序号 | 3 | 测试项目名 | 宫称 | 振动 | | | | |
| No. | 3 | Name of Test Items | | Vibration | | | | |
| 17/ 17/24 17 | IV ELID de | 测试前 | Before | 测试后 | After | 质量损失 | NEWS D. C. L. E. | |
| 样品编号 | 样品状态 | 电池质量 | 开路电压 | 电池质量 | 开路电压 | Mass loss | Voltage loss | 测试结果 |
| Sample No | Sample status | $m_I(g)$ | $V_I(V)$ | $m_2(g)$ | $V_2(V)$ | (%) | (%) | Test result |
| B1 | 首次完全充电 1 CYC Fully Charged | 35.848 | 4.14 | 35.848 | 4.14 | 0.000 | 0.00 | О |
| B2 | 首次完全充电 1 CYC Fully Charged | 35.758 | 4.14 | 35.756 | 4.13 | 0.006 | 0.24 | О |
| В3 | 首次完全充电 1 CYC Fully Charged | 35.724 | 4.13 | 35.724 | 4.13 | 0.000 | 0.00 | О |
| B4 | 首次完全充电 1 CYC Fully Charged | 35.736 | 4.13 | 35.735 | 4.13 | 0.003 | 0.00 | O |
| В5 | 首次完全充电 1 CYC Fully Charged | 35.788 | 4.15 | 35.787 | 4.14 | 0.003 | 0.24 | О |
| В6 | 首次完全充电 1 CYC Fully Charged | 35.856 | 4.14 | 35.856 | 4.14 | 0.000 | 0.00 | 0 |
| В7 | 首次完全充电 1 CYC Fully Charged | 35.779 | 4.14 | 35.777 | 4.13 | 0.006 | 0.24 | О |
| В8 | 首次完全充电 1 CYC Fully Charged | 35.851 | 4.13 | 35.851 | 4.12 | 0.000 | 0.24 | О |
| В9 | 首次完全充电 1 CYC Fully Charged | 35.827 | 4.15 | 35.826 | 4.14 | 0.003 | 0.24 | 0 |
| B10 | 首次完全充电 1 CYC Fully Charged | 35.754 | 4.14 | 35.753 | 4.14 | 0.003 | 0.00 | О |
| 以下空白 | | | | | | | | |
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注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火

Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire



附表 4 Appendix 4 Report No.: BST17101005180001Y-1LR-2

| | Appendix 4 | | | | | | | | |
|----------------|-------------------------------|------------|-----------|----------|----------|-----------|--------------|--------------|--|
| 序号 | 4 | 测试项目名 | 含称 | 冲击 | | | | | |
| No. | 4 | Name of Te | est Items | Shock | | | | | |
| 17, 17, 12, 17 | DV EL ID da | 测试前 | Before | 测试后 | After | 质量损失 | 电压损失 |)HJ. N. J. H | |
| 样品编号 | 样品状态 | 电池质量 | 开路电压 | 电池质量 | 开路电压 | Mass loss | Voltage loss | 测试结果 | |
| Sample No | Sample status | $m_I(g)$ | $V_I(V)$ | $m_2(g)$ | $V_2(V)$ | (%) | (%) | Test result | |
| B1 | 首次完全充电 1 CYC Fully Charged | 35.848 | 4.14 | 35.848 | 4.14 | 0.000 | 0.00 | О | |
| B2 | 首次完全充电 1 CYC Fully Charged | 35.756 | 4.13 | 35.755 | 4.12 | 0.003 | 0.24 | О | |
| В3 | 首次完全充电 1 CYC Fully Charged | 35.724 | 4.13 | 35.724 | 4.13 | 0.000 | 0.00 | О | |
| B4 | 首次完全充电 1 CYC Fully Charged | 35.735 | 4.13 | 35.735 | 4.13 | 0.000 | 0.00 | 0 | |
| B5 | 首次完全充电 1 CYC Fully Charged | 35.787 | 4.14 | 35.787 | 4.13 | 0.000 | 0.24 | О | |
| В6 | 首次完全充电 1 CYC Fully Charged | 35.856 | 4.14 | 35.856 | 4.14 | 0.000 | 0.00 | О | |
| В7 | 首次完全充电 1 CYC Fully Charged | 35.777 | 4.13 | 35.776 | 4.13 | 0.003 | 0.00 | О | |
| B8 | 首次完全充电 1 CYC Fully Charged | 35.851 | 4.12 | 35.851 | 4.12 | 0.000 | 0.00 | 0 | |
| В9 | 首次完全充电 1 CYC Fully Charged | 35.826 | 4.14 | 35.825 | 4.14 | 0.003 | 0.00 | О | |
| B10 | 首次完全充电 1 CYC Fully Charged | 35.753 | 4.14 | 35.753 | 4.13 | 0.000 | 0.24 | О | |
| 以下空白 | | | | | | | | | |
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注: L-泄露; V-排气; D-解体; R-破裂; F-起火; O-无泄露、无排气、无解体、无破裂、无起火

Note: L-Leakage, V-Venting, D-Disassembly, R-Rupture, F-Fire



附 表:

附表 5 Appendix 5

Report No.: BST17101005180001Y-1LR-2

| 序号 No. 5 | | 测试项目名称 | | 短路 |
|--------------------------|-------------------------------|--|---------------------|------------------------------|
| No. 样品编号 Sample No | 样品状态 Sample status | Name of Test Items 样品表面最高温度 Max. External Temperature (℃) | 测试结果 Test result | hort circuit 备注 Remark |
| B1 | 首次完全充电 1 CYC Fully Charged | 57.3 | О | / |
| B2 | 首次完全充电 1 CYC Fully Charged | 57.3 | O | / |
| В3 | 首次完全充电 1 CYC Fully Charged | 57.3 | O | / |
| B4 | 首次完全充电 1 CYC Fully Charged | 57.4 | O | / |
| B5 | 首次完全充电 1 CYC Fully Charged | 57.3 | O | / |
| В6 | 首次完全充电 1 CYC Fully Charged | 57.4 | O | / |
| В7 | 首次完全充电 1 CYC Fully Charged | 57.3 | O | / |
| В8 | 首次完全充电 1 CYC Fully Charged | 57.4 | O | / |
| В9 | 首次完全充电 1 CYC Fully Charged | 57.3 | O | / |
| B10 | 首次完全充电 1 CYC Fully Charged | 57.4 | O | / |
| 以下空白 | | | | |
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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

Report No.: BST17101005180001Y-1LR-2

Appendix 6

| 序号 No. | 6 | 测试项目名称 Name of Test Items | 挤 Crı | |
|-------------------|--------------------------------|--|---------------------|--------------|
| 样品编号 Sample No | 样品状态 Sample status | 样品表面最高温度 Max. External Temperature (℃) | 测试结果 Test result | 备注 Remark |
| C1 | 首次 50%容量 1 CYC 50% Capacity | 24.3 | О | / |
| C2 | 首次 50%容量 1 CYC 50% Capacity | 24.2 | О | / |
| С3 | 首次 50%容量 1 CYC 50% Capacity | 24.4 | О | / |
| C4 | 首次 50%容量 1 CYC 50% Capacity | 24.2 | O | / |
| C5 | 首次 50%容量 1 CYC 50% Capacity | 24.3 | O | / |
| 以下空白 | | | | |
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注: D-解体; F-起火; O-无解体、无起火

Note: D-Disassembly, F-Fire, O-No disassembly, no fire.



Co., Ltd. Report No.: BST17101005180001Y-1LR-2

附表 7 Appendix 7

| | | | Appenaix 1 | | |
|-------------------|----------------------------------|----------------------------------|---------------------|------|--------------|
| 序号 | 测试项目名称 | | | 过度充电 | |
| No. | 7 | Name of Test Ite | | | |
| 样品编号 Sample No | 样品* Sample | 大 态 | 测试结果 Test result | | 备注 Remark |
| B11 | 首次完全 1 CYC Fully | | | О | / |
| B12 | 首次完全 1 CYC Fully | | | О | / |
| B13 | 首次完全 1 CYC Fully | | | О | / |
| B14 | 首次完全 1 CYC Fully | | | О | / |
| B15 | 50 次完全 50 CYC Fully | | | 0 | / |
| B16 | | 50 次完全充电 50 CYC Fully Charged | | O | / |
| B17 | 50 次完全充电 50 CYC Fully Charged | | | 0 | / |
| B18 | 50 次完全充电 50 CYC Fully Charged | | | O | / |
| 以下空白 | | | | | |
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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 Appendix8

| 序号 | 0 | 测试项 | Appendix i 百名称 | | 强制放电 | | |
|-------------------|---|-------------------------------------|-------------------|------------------|------------------|---|---|
| No. | 8 | Name of | Test Items | | Forced discharge | | |
| 样品编号 Sample No | 样品状 Sample s | | | 试结果 st result | 备注 Remark | | |
| C6 | 首次完全 1 CYC Fully Di | | | O | / | | |
| C7 | 首次完全) 1 CYC Fully Di | | | О | / | | |
| C8 | 首次完全) 1 CYC Fully Di | | | O | / | | |
| С9 | 首次完全) 1 CYC Fully Di | | | O | / | | |
| C10 | 首次完全) 1 CYC Fully Di | | | 0 | / | | |
| C11 | 首次完全放电 1 CYC Fully Discharged | | | O | / | | |
| C12 | 首次完全放电 1 CYC Fully Discharged | | | | | O | / |
| C13 | 首次完全放电 1 CYC Fully Discharged | | | | / | | |
| C14 | 首次完全放电 1 CYC Fully Discharged | | | | / | | |
| C15 | | 首次完全放电 1 CYC Fully Discharged | | O | / | | |
| C16 | 50 次完全放电 50 CYC Fully Discharged | | 0 | / | | | |
| C17 | 50 CYC Fully D | 50 次完全放电 50 CYC Fully Discharged | | 0 | / | | |
| C18 | 50 次完全 50 CYC Fully D | ischarged | | 0 | / | | |
| C19 | 50 次完全 50 CYC Fully D | ischarged | | 0 | / | | |
| C20 | 50 次完全 50 CYC Fully D 50 次完全 | ischarged | | 0 | / | | |
| C21 | 50 次完全 50 CYC Fully D 50 次完全 | ischarged | | 0 | / | | |
| C22 | 50 CYC Fully D | ischarged | | 0 | / | | |
| C23 | 50 次完全放电 50 CYC Fully Discharged | | | 0 | / | | |
| C24 | 50 次完全放电 50 CYC Fully Discharged 50 次完全放电 | | | 0 | / | | |
| C25 | 50 CYC Fully D | | | 0 | / | | |

注: D-解体; F-起火; O-无解体、无起火

Note: D-Disassembly, F-Fire, O-No disassembly, no fire.



样品图片

Sample Photo











