Test Report issued under the responsibility of:

DEKRA

TEST REPORT **of UN38.3** **UN38.3 测试报告**	
Report Number（报告编号）.....:	4357318.50
Date of issue（签发日期）.....:	2019-09-11
Total number of pages（页数）.....	28 pages
Applicant's name（申请人）.....:	Greenway Technology Co., Ltd 广东博力威科技股份有限公司
Address（地址）.....:	Tongsha New Industry Park, Dongcheng Street, Dongguan City ,Guangdong Province, China 中国广东省东莞市东城街道同沙新工业园
Test specification（测试规格）:	
Standard（标准）.....:	ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1
Test procedure（测试程序）.....:	Type test（型式测试）
Non-standard test method（非标准测试方法）.....:	N/A
Test Report Form No（报告格式编号）.....:	UN38.3C
Test Report Form(s) Originator（报告格式编写）.....:	DEKRA
Test item description（测试项目）:	Rechargeable Li-ion Battery Pack 可充电锂离子电池
Trade Mark（商标）.....:	Goal zero
Manufacturer（生产单位）.....:	Same as applicant.
Model/Type reference（型号）.....:	YETI 200X
Ratings（参数）.....:	14,4 Vdc, 13000 mAh, 187 Wh
Appearance（外观颜色）.....:	Silver(银色)
Test Conclusion （测试结论）.....:	The samples comply with the requirement of UN 38.3 测试样品符合UN38.3的要求。

Testing procedure and testing location（测试程序和地点）：			
☒	**Testing Laboratory（测试实验室）：**	DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch **德凯质量认证（上海）有限公司广州分公司**	
Testing location/ address（测试实验室地点）.....:		No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China **中国广东省广州市黄埔区起云路3号**	
	Tested by (name + signature)（测试人员）.....:	Benson Shen	Benson Shen
	Reviewed by (name + signature)（审核人员）.....:	Alger Yang	
	Approved by (name + signature)（批准人员）.....:	Among Chen	

Summary of testing（测试总结）：	
Tests performed (name of test and test clause)（测试项目）： Model YETI 200X was subjected to full tests as far as applicable.	**Testing location（测试地点）：** DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China

Copy of marking plate(铭牌)

Test item particulars (样品参数)..... :	
Recommend charging method declaired by the manufacturer（生产单位建议充电方法）.....:	CC/CV
Discharge current（放电电流）.....:	520 mA for cell, 2600 mA for battery.
Specified final voltage（放电截止电压）.....:	2,75 Vdc for cell, 11,10 Vdc for battery.
Upper limit charging voltage （充电上限电压）.....:	4,25 Vdc for cell; 16,8 Vdc for battery, 20 Vdc for USB-C port, 22Vdc for 8mm port.
Maximum charging current（最大充电电流）.....:	2600 mA for cell, 13000 mA for battery, 3000 mA for USB-C port, 10000 mA for 8mm port
Maximum discharging current（最大放电电流）...:	10000 mA for cell, 25000 mA for battery, 3000 mA for USB port, 10000 mA for 6 mm port, 15000 mA for car port, 1000 mA for AC Outlet.
Possible test case verdicts（测试判定）:	
- test case does not apply to the test object（测试条款不适用）.....:	N/A
- test object does meet the requirement（测试条款符合要求）.....:	P (Pass)
- test object does not meet the requirement（测试条款不符合要求）.....:	F (Fail)
Testing（测试）.....:	
Date of receipt of test item（收样日期）.....:	2019-08-08
Date (s) of performance of tests（测试日期）.....:	2019-08-09 to 2019-09-06

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
This report will not be used for social proof function in China market.
"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.
报告中用逗号来做为小数点

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result.

Name and address of factory (ies).....:	Greenway Technology Co., Ltd 广东博力威科技股份有限公司 Tongsha New Industry Park, Dongcheng Street, Dongguan City, Guangdong Province, China 中国广东省东莞市东城街道同沙新工业园

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
38.3.4	**Procedure/测试程序**		
38.3.4.1	**Test T.1: Altitude simulation/测试 1：高度模拟**		P
	Test cells and batteries shall be stored at a pressure of 11,6kPa or less for at least six hour at ambient temperature (20±5 °C) 试验电池和电池组应在压力等于或低于 11.6 千帕和环境温度(20±5℃)下存放至少 6 小时		P
	Result/测试结果： －Cells and batteries Mass loss limit 样品质量损失	See appendix table/ 见附表	P
	－Open circuit voltage not less than 90% of its voltage immediately prior to this precedure, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 试验后的开路电压不小于其在进行这一试验前电压的 90%，此要求不适用于完全放电状态的试验电池和电池组	See appendix table/ 见附表	P
	－No leakage, no venting, no disassembly, no rupture and no fire 无渗漏、无排气、无解体、无破裂以及无起火	See appendix table/ 见附表	P
38.3.4.2	**Test T.2: Thermal test/测试 2: 热冲击**		P
	Test cells and batteries are to be stored for at least six hours at a test temperature equal to 72±2°C, followed by storage for at least six hours at a test temperature equal to -40±2°C, The maximum time interval between test temperature extremes in 30 minutes, This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20±5°C). 试验电池和电池组应先在试验温度等于 72±2°C的条件下存放至少 6 小时，接着再在试验温度等于-40±2°C的条件下存放至少 6 小时。两个极端试验温度之间的最大时间间隔为 30 分钟。此程序重复进行，共完成 10 次，接着将所有试验电池和电池组在环境温度(20±5°C)下存放 24 小时		P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
	Result/测试结果： －Cells and batteries Mass loss limit 样品质量损失	See appendix table/ 见附表	P
	－Open circuit voltage not less than 90% of its voltage immediately prior to this precedure, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 试验后的开路电压不小于其在进行这一试验前电压的 90%，此要求不适用于完全放电状态的试验电池和电池组	See appendix table/ 见附表	P
	－No leakage, no venting, no disassembly, no rupture and no fire 无渗漏、无排气、无解体、无破裂以及无起火	See appendix table/ 见附表	P
38.3.4.3	**Test T.3: Vibration/测试 3: 振动**		P
	Cells and batteries are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration, The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7Hz and 200Hz and back to 7 Hz traversed in 15 minutes, This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting position of the cell. One of the directions of vibration must be perpendicular to the terminal face. 电池和电池组紧固于振动机平台，但紧固程度不能造成电池变形以致不能准确传递振动。振动应是正弦波形，对数频率扫描从 7 赫兹到 200 赫兹，再回到 7 赫兹，跨度为 15 分钟。这一振动过程须对三个互相垂直的电池安装方位的每一方向重复进行 12 次，总共为时 3 小时。其中一个振动方向必须与端面垂直		P
	Result/测试结果： －Cells and batteries Mass loss limit 样品质量损失	See appendix table/ 见附表	P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
	－Open circuit voltage not less than 90% of its voltage immediately prior to this procedure, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 试验后的开路电压不小于其在进行这一试验前电压的 90%，此要求不适用于完全放电状态的试验电池和电池组	See appendix table/ 见附表	P
	－No leakage, no venting, no disassembly, no rupture and no fire 无渗漏、无排气、无解体、无破裂以及无起火	See appendix table/ 见附表	P
38.3.4.4	**Test T.4: Shock/测试 4: 冲击**		P
	Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each battery 试验电池和电池组用坚固支架紧固在试验机上，支架支撑着每个试验电池组的所有安装面。		P
	Each cell shall be subjected to a half-sine shock of peak acceleration of 150 gn and pulse duration of 6 milliseconds. Large cells may be subjected to a half-sine shock of peak acceleration of 50 gn and pulse duration of 11 milliseconds. 每个电池须经受最大加速度 150gn 和脉冲持续时间 6 毫秒的半正弦波冲击。不过，大型电池须经受最大加速度 50gn 和脉冲持续时间 11 毫秒的半正弦波冲击。		P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
	Small batteries shall be subjected to a half-sine shock of peak acceleration of 150gn (or $Acceleration(g_n)=\sqrt{\left(\frac{100850}{mass^*}\right)}$, which is smaller) and pulse duration of 6 milliseconds, large batteries shall be subjected to a half-sine of peak acceleration of 50 gn (or $Acceleration(g_n)=\sqrt{\left(\frac{30000}{mass^*}\right)}$ which is smaller) and pulse duration of 11 milliseconds/ 对每个小电池以峰值为 150gn（或与 $Acceleration(g_n)=\sqrt{\left(\frac{100850}{mass^*}\right)}$ 中的较小值）的半正弦的加速度撞击，脉冲持续 6 毫秒，大型电池组须经受最大加速度 50 gn（或与 $Acceleration(g_n)=\sqrt{\left(\frac{30000}{mass^*}\right)}$ 中的较小值）和脉冲持续时间 11 毫秒的半正弦波冲击。		P
	Each cell or battery shall be subjected to three shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks 每个电池或电池组须在三个互相垂直的电池或电池组安装方位的正极方向经受三次冲击，接着在负极方向经受三次冲击，总共经受 18 次冲击。		P
	Result/测试结果： －Cells and batteries Mass loss limit 样品质量损失	See appendix table/ 见附表	P
	－Open circuit voltage not less than 90% of its voltage immediately prior to this precedure, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 试验后的开路电压不小于其在进行这一试验前电压的 90%，此要求不适用于完全放电状态的试验电池和电池组	See appendix table/ 见附表	P
	－No leakage, no venting, no disassembly, no rupture and no fire 无渗漏、无排气、无解体、无破裂以及无起火	See appendix table/ 见附表	P
38.3.4.5	**Test T.5: External Short Circuit/测试 5 外接短路**		P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
	The cell or battery to be tested shall be shall be heated for a period of time necessary to reach a homogeneous stabilized temperature of 57 ± 4 °C, measured on the external case. This period of time depends on the size and design of the cell or battery and should be assessed and documented. If this assessment is not feasible, the exposure time shall be at least 6 hours for small cells and small batteries, and 12 hours for large cells and large batteries. Then the cell or battery at 57 ± 4 °C shall be subjected to one short circuit condition with a total external resistance of less than 0.1 ohm. 对于待试电池或电池组，应加温一段必要的时间，使从外壳测量的温度达到均匀的稳定温度57±4°C。这段时间的长短取决于电池或电池组的大小和设计，对于这个持续时间应加以评估和记录。如无法进行这种评估，则小型电池和小型电池组的暴露时间应至少 6 小时，大型电池和小型电池组的暴露时间应至少 12 小时。然后，电池或电池组应在 57±4°C 条件下经受总外电阻小于 0.1 欧姆的短路条件。		P
	This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to 57 ± 4 °C, or in the case of the large batteries, has decreased by half of the maximum temperature increase observed during the test and remains below that value. 这一短路条件应在电池或电池组外壳温度回到 57±4°C 后继续至少 1 小时，或在大型电池组的情况下外壳温度阵幅达试验中所观察的的最高温升幅的二分之一并保持低于该数值。		P
	The short circuit and cooling down phases shall be conducted at least at ambient temperature. 短路和阵温阶段的温度应至少相当于环境温度。		P
	Result/测试结果： During the test and within six hours after test ,the cells or batteries 在测试过程中以及之后6个小时内，电芯或电池样品	See appendix table/ 见附表	P
	External temperature not exceed 170°C 外表温度不超过 170°C	See appendix table/ 见附表	P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
	No disassembly, no rupture and no fire. 无解体、无破裂和无起火	See appendix table/ 见附表	P
38.3.4.6	**Test T.6: Impact / Crush / 测试 6: 撞击/挤压**		P
38.3.4.6.1	Purpose		P
38.3.4.6.2	Impact (applicable to cylindrical cells not less than 18mm in diameter) 撞击（适用于直径不小于18毫米的圆柱形电池）		P
	This test sample cell or component cell is to be placed on a flat smooth surface 试样电池或元件电池放在平坦光滑的表面上		P
	A 15.8 mm ± 0.1 mm diameter, at least 6 cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar is to be placed across the centre of the sample. A 9.1 kg ± 0.1kg mass is to be dropped from a height of 61 ± 2.5 cm at the intersection of the bar and sample in a controlled manner using a near frictionless, vertical sliding track or channel with minimal drag on the falling mass. The vertical track or channel used to guide the falling mass shall be oriented 90 degrees from the horizontal supporting surface. 一根 316 型不锈钢棒横放在试样中心，钢棒直径 15.8 毫米±0.1 毫米，长度至少 6 厘米，或电池最长端的尺寸，取二者之长者。将一块 9.1 千克±0.1 千克的重锤从 61±2.5 厘米高处跌落到钢棒和试样交叉处，使用一个几乎没有摩擦的、对落体重锤阻力最小的垂直轨道或管道加以控制。垂直轨道或管道用于寻导落锤沿与水平支撑表面呈 90度落下		P
	The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8 mm ± 0.1 mm diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact. 接受撞击的试样，纵轴应与平坦表面平行并与横放在试样中心的直径 15.8±0.1 毫米弯曲表面的纵轴垂直。每一试样只经受一次撞击。		P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
38.3.4.6.3	Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells less than 18mm in diameter) 挤压（适用于棱柱形、袋装、硬币/纽扣电池和直径小于 18 毫米的圆柱形电池）		N/A
	A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1,5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached. 将电池或元件电池放在两个平面之间挤压，挤压力度逐渐加大，在第一个接触点上的速度大约为 1.5 厘米/秒。挤压持续进行，直到出现以下三种情况之一		N/A
	The applied force reaches 13 kN ± 0,78 kN. 施加的力量达到 13 千牛顿±0.78 千牛顿		N/A
	The voltage of the cell drops by at least 100 mV, 电池的电压下降至少 100 毫伏		N/A
	The cell is deformed by 50% or more of its original thickness. 电池变形达原始厚度的 50%或以上。		N/A
	A prismatic or pouch cell shall be crushed by applying the force to the widest side. A button/coin cell shall be crushed by applying the force on its flat surfaces. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis. 棱柱形或袋装电池应从最宽的一面施压。纽扣/硬币形电池应从其平坦表面施压。圆柱形电池应从与纵轴垂直的方向施压		N/A
38.3.4.6.4	Result/测试结果： During the test and within six hours after test ,the cells or batteries 在测试过程中以及之后 6 个小时内，电芯或电池样品		P
	External temperature not exceed 170°C 外表温度不超过 170°C	See appendix table/ 见附表	P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
	No disassembly, no rupture and no fire. 无解体、无破裂和无起火	See appendix table/ 见附表	P
38.3.4.7	**Test T.7: Overcharge/测试 7: 过充电**		P
	a) When the manufacturer's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22V 制造商建议的充电电压不大于 18 伏时，试验的最小电压应是电池组最大充电电压的两倍或22 伏两者中的较小者		P
	b) When the manufacturer's recommended charge voltage is more than 18V, the minimum voltage of the test shall be 1,2 times the maximum charge voltage 制造商建议的充电电压大于 18 伏时，试验的最小电压应为最大充电电压的 1.2 倍		N/A
	Tests are to be conducted at ambient temperature 20±5°C, The duration of the test shall be 24 hours 20±5°C的环境温度下试验持续24小时		P
	Result/测试结果： No disassembly and no fire within seven days of this test 试验样品在试验中和试验后 7 天内，应无解体和无起火	See appendix table/ 见附表	P
38.3.4.8	**Test T.8: Forced discharge/测试 8: 强制放电**		P
	Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12 V D.C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer 20±5°C的环境温度下，将单个电芯与 12 伏直流电源串联在起始电流等于制造商给定的最大放电电流的条件下强制放电		P

ST/SG/AC.10/11/Rev.6, UN 38.3 amendment 1			
Clause 章节	Requirement + Test 要求+测试	Result – Remark 测试结果	Verdict 判定
	The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell shall be forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in ampere) 将适当大小和额定值的电阻负荷与试验电池串联，计算得出给定的放电电流。对每个电池进行强制放电，放电时间(小时)应等于其额定容量除以初始试验电流(安培)		P
	Result/测试结果： No disassembly and no fire within seven days of this test 试验样品在试验中和试验后 7 天内，应无解体和无起火	See appendix table/ 见附表	P

UN 38.3

TEST T.1	**TABLE: Altitude 高度模拟**							P
Sample No. 样品编号	Precondition 预处理	Open circuit voltage before test, V1dc, (V) 测试前开路电压	Mass before test, M1, (g) 测试前质量	Open circuit voltage after test, V2dc, (V) 测试后开路电压	Mass after test, M2, (g) 测试后质量	Residual OCV 剩余电压 V2/ V1	Mass Loss 质量损失 △M/M1	Results 结果
#B01	First cycle in fully charged states 首次充满	16,641	2248,77	16,501	2240,45	99,16%	0,004%	P
#B02	First cycle in fully charged states 首次充满	16,651	2267,82	16,461	2266,23	98,86%	0,001%	P
#B03	First cycle in fully charged states 首次充满	16,620	2236,61	16,491	2234,37	99,22%	0,001%	P
#B04	First cycle in fully charged states 首次充满	16,633	2243,91	16,511	2240,77	99,27%	0,001%	P
#B05	After 25 cycles ending in fully charged states 25次循环充满	16,625	2253,39	16,531	2250,69	99,43%	0,001%	P
#B06	After 25 cycles ending in fully charged states 25次循环充满	16,567	2240,70	16,481	2240,62	99,48%	0,001%	P
#B07	After 25 cycles ending in fully charged states 25次循环充满	16,578	2250,91	16,451	2246,63	99,23%	0,002%	P
#B08	After 25 cycles ending in fully charged states 25次循环充满	16,629	2254,88	16,561	2253,85	99,59%	0,001%	P

Supplementary information:

- No leakage无渗漏
- No venting无排气
- No disassembly无解体
- No rupture 无破裂
- No fire 无起火

UN 38.3

TEST T.2	**TABLE:** Thermal test/测试 2: 热冲击							P
Sample No. 样品编号	Precondition 预处理	Open circuit voltage before test, V1dc, (V) 测试前开路电压	Mass before test, M1, (g) 测试前质量	Open circuit voltage after test, V2dc, (V) 测试后开路电压	Mass after test, M2, (g) 测试后质量	Residual OCV 剩余电压 V2/ V1	Mass Loss 质量损失 △M/M1	Results 结果
#B01	First cycle in fully charged states 首次充满	16,501	2240,45	16,271	2239,11	98,61%	0,001%	P
#B02	First cycle in fully charged states 首次充满	16,461	2266,23	16,191	2264,19	98,36%	0,001%	P
#B03	First cycle in fully charged states 首次充满	16,491	2234,37	16,241	2230,80	98,48%	0,002%	P
#B04	First cycle in fully charged states 首次充满	16,511	2240,77	16,231	2235,17	98,30%	0,002%	P
#B05	After 25 cycles ending in fully charged states 25次循环充满	16,531	2250,69	16,341	2249,11	98,85%	0,001%	P
#B06	After 25 cycles ending in fully charged states 25次循环充满	16,481	2240,62	16,261	2235,55	98,67%	0,002%	P
#B07	After 25 cycles ending in fully charged states 25次循环充满	16,451	2246,63	16,241	2243,49	98,72%	0,001%	P
#B08	After 25 cycles ending in fully charged states 25次循环充满	16,561	2253,85	16,381	2253,30	98,91%	0,001%	P

Supplementary information:

- No leakage无渗漏
- No venting无排气
- No disassembly无解体
- No rupture 无破裂
- No fire 无起火

UN 38.3

TEST T.3	**TABLE: Vibration/测试 3: 振动**							P
Sample No. 样品编号	Precondition 预处理	Open circuit voltage before test, V1dc, (V) 测试前开路电压	Mass before test, M1, (g) 测试前质量	Open circuit voltage after test, V2dc, (V) 测试后开路电压	Mass after test, M2, (g) 测试后质量	Residual OCV 剩余电压 V2/ V1	Mass Loss 质量损失 △M/M1	Results 结果
#B01	First cycle in fully charged states 首次充满	16,271	2239,11	16,101	2233,73	98,96%	0,002%	P
#B02	First cycle in fully charged states 首次充满	16,191	2264,19	16,061	2259,89	99,20%	0,002%	P
#B03	First cycle in fully charged states 首次充满	16,241	2230,80	16,111	2227,45	99,20%	0,002%	P
#B04	First cycle in fully charged states 首次充满	16,231	2235,17	16,041	2230,03	98,83%	0,002%	P
#B05	After 25 cycles ending in fully charged states 25次循环充满	16,341	2249,11	16,271	2245,29	98,96%	0,002%	P
#B06	After 25 cycles ending in fully charged states 25次循环充满	16,261	2235,55	16,141	2232,64	99,20	0,001%	P
#B07	After 25 cycles ending in fully charged states 25次循环充满	16,241	2243,49	16,171	2238,78	99,20%	0,002%	P
#B08	After 25 cycles ending in fully charged states 25次循环充满	16,381	2253,30	16,281	2249,25	98,83%	0,002%	P

Supplementary information:

- No leakage无渗漏
- No venting无排气
- No disassembly无解体
- No rupture 无破裂
- No fire 无起火

UN 38.3

TEST T.4	**TABLE: Shock/测试 4: 冲击**							P
Sample No. 样品编号	Precondition 预处理	Open circuit voltage before test, V1dc, (V) 测试前开路电压	Mass before test, M1, (g) 测试前质量	Open circuit voltage after test, V2dc, (V) 测试后开路电压	Mass after test, M2, (g) 测试后质量	Residual OCV 剩余电压 V2/ V1	Mass Loss 质量损失 △M/M1	Results 结果
#B01	First cycle in fully charged states 首次充满	16,101	2233,73	16,001	2226,58	99,38%	0,003%	P
#B02	First cycle in fully charged states 首次充满	16,061	2259,89	15,961	2254,69	99,38%	0,002%	P
#B03	First cycle in fully charged states 首次充满	16,111	2227,45	16,021	2225,00	99,44%	0,001%	P
#B04	First cycle in fully charged states 首次充满	16,041	2230,03	15,951	2226,23	99,44%	0,002%	P
#B05	After 25 cycles ending in fully charged states 25次循环充满	16,271	2245,29	16,221	2237,88	99,69%	0,003%	P
#B06	After 25 cycles ending in fully charged states 25次循环充满	16,141	2232,64	16,061	2222,59	99,50%	0,005%	P
#B07	After 25 cycles ending in fully charged states 25次循环充满	16,171	2238,78	16,121	2231,61	99,69%	0,003%	P
#B08	After 25 cycles ending in fully charged states 25次循环充满	16,281	2249,25	16,181	2243,17	99,39%	0,003%	P

Supplementary information:

- No leakage无渗漏
- No venting无排气
- No disassembly无解体
- No rupture 无破裂
- No fire 无起火

UN 38.3

TEST T.5	**TABLE: External Short Circuit/测试 5 外接短路**		P
Sample No. 样品编号	Precondition 预处理	Maximum case temperature (°C) 表面最高温度	Results 结果
#B01	First cycle in fully charged states 首次充满	57,4	P
#B02	First cycle in fully charged states 首次充满	57,9	P
#B03	First cycle in fully charged states 首次充满	57,3	P
#B04	First cycle in fully charged states 首次充满	58,2	P
#B05	After 25 cycles ending in fully charged states 25次循环充满	57,8	P
#B06	After 25 cycles ending in fully charged states 25次循环充满	58,0	P
#B07	After 25 cycles ending in fully charged states 25次循环充满	58,5	P
#B08	After 25 cycles ending in fully charged states 25次循环充满	57,7	P

Supplementary information:

- External temperature not exceed 170°C 外表温度不超过 170°C
- No disassembly无解体
- No rupture 无破裂
- No fire 无起火

UN 38.3

TEST T.6		**TABLE: Impact/测试6 撞击**		P
Sample No. 样品编号	Precondition 预处理	Open circuit voltage before test (V) 测试前开路电压	Maximum case temperature (°C) 表面最高温度	Results 结果
#C01	At first circle at 50% of the design rated capacity 首次50%容量	3,663	109,1	P
#C02	At first circle at 50% of the design rated capacity 首次50%容量	3,666	117,7	P
#C03	At first circle at 50% of the design rated capacity 首次50%容量	3,668	67,2	P
#C04	At first circle at 50% of the design rated capacity 首次50%容量	3,669	121,1	P
#C05	At first circle at 50% of the design rated capacity 首次50%容量	3,673	43,7	P
#C06	After 25 cycles at 50% of the design rated capacity of cell 25次循环50%容量	3,672	47,3	P
#C07	After 25 cycles at 50% of the design rated capacity of cell 25次循环50%容量	3,675	30,2	P
#C08	After 25 cycles at 50% of the design rated capacity of cell 25次循环50%容量	3,674	109,9	P

UN 38.3

#C09	After 25 cycles at 50% of the design rated capacity of cell 25次循环50%容量	3,676	115,1	P
#C10	After 25 cycles at 50% of the design rated capacity of cell 25次循环50%容量	3,673	116,7	P

Supplementary information:

- External temperature not exceed 170°C 外表温度不超过 170°C
- No disassembly无解体
- No fire 无起火

TEST T.6	**TABLE: Crush/ 测试6 挤压**		N/A
Sample No. 样品编号	Precondition 预处理	Maximum case temperature (°C) 表面最高温度	Results 结果
N/A	N/A	N/A	N/A

Supplementary information:

- External temperature not exceed 170°C 外表温度不超过 170°C
- No disassembly无解体
- No rupture 无破裂
- No fire 无起火

TEST T.7	**TABLE: Overcharge/测试 7: 过充电**					P
Sample No. 样品编号	Precondition 预先处理	Open circuit voltage before test (V) 测试前开路电压	Maximum charging current (mA) 最大充电电流	Maximum charging voltage (V) 最大充电电压	Total charging time (h) 测试时间	Results 结果
#B09	First cycle in fully charged states 首次充满	15,539	26000	22,0	24	P
#B10	First cycle in fully charged states 首次充满	15,688	26000	22,0	24	P

UN 38.3

#B11	First cycle in fully charged states 首次充满	15,406	26000	22,0	24	P
#B12	First cycle in fully charged states 首次充满	15,422	26000	22,0	24	P
#B13	After 25 cycles ending in fully charged states 25次循环充满	15,574	26000	22,0	24	P
#B14	After 25 cycles ending in fully charged states 25次循环充满	15,701	26000	22,0	24	P
#B15	After 25 cycles ending in fully charged states 25次循环充满	15,279	26000	22,0	24	P
#B16	After 25 cycles ending in fully charged states 25次循环充满	15,496	26000	22,0	24	P

Supplementary information:

- No disassembly无解体
  No fire 无起火

TEST T.8	**TABLE: Forced discharge/测试 8: 强制放电**	P

Sample No. 样品编号	Precondition 预处理	Results 结果
#C11	First cycle in fully discharged states 首次完全放电	P
#C12	First cycle in fully discharged states 首次完全放电	P
#C13	First cycle in fully discharged states 首次完全放电	P
#C14	First cycle in fully discharged states 首次完全放电	P

UN 38.3

#C15	First cycle in fully discharged states 首次完全放电	P
#C16	First cycle in fully discharged states 首次完全放电	P
#C17	First cycle in fully discharged states 首次完全放电	P
#C18	First cycle in fully discharged states 首次完全放电	P
#C19	First cycle in fully discharged states 首次完全放电	P
#C20	First cycle in fully discharged states 首次完全放电	P
#C21	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C22	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C23	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C24	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C25	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C26	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C27	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C28	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C29	After 25 cycles in fully discharged states 25次循环后完全放电	P
#C30	After 25 cycles in fully discharged states 25次循环后完全放电	P
Supplementary information: - No disassembly无解体 - No fire 无起火		

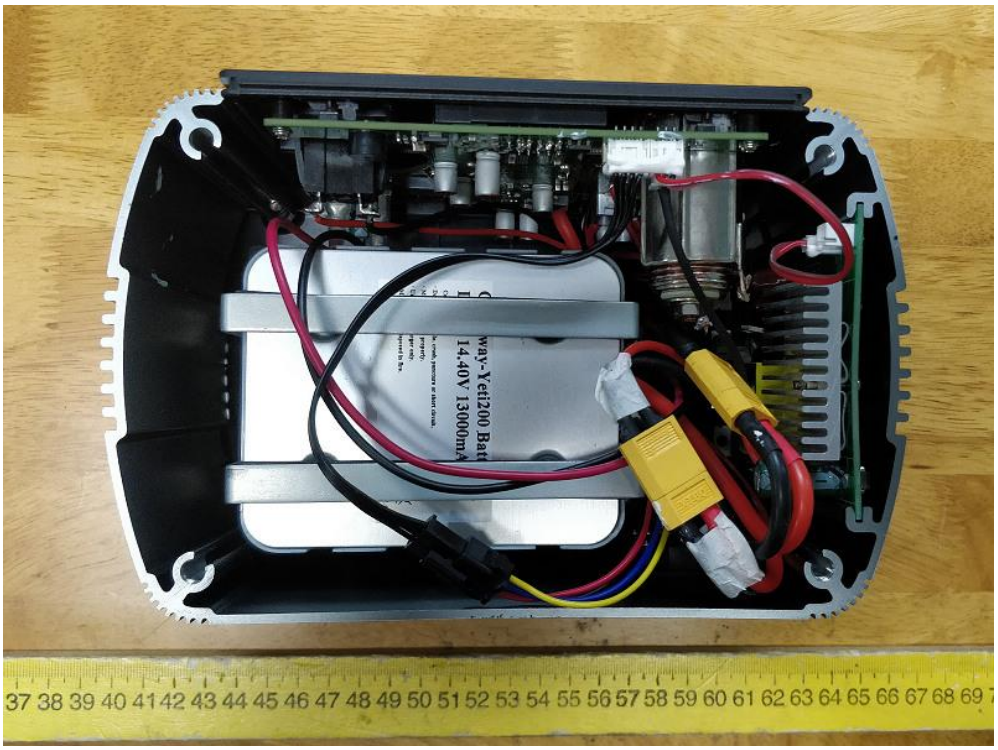
Attachment 1 : Photos and illustrations

Overview

Overview

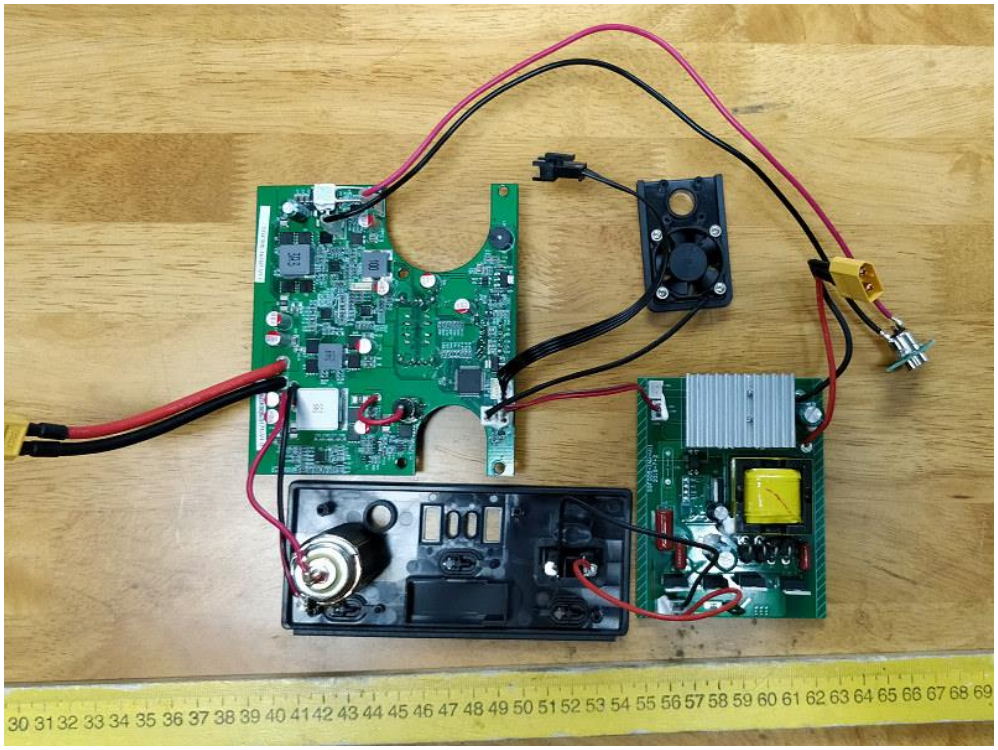
Attachment 1 : Photos and illustrations

Overview



Internal View

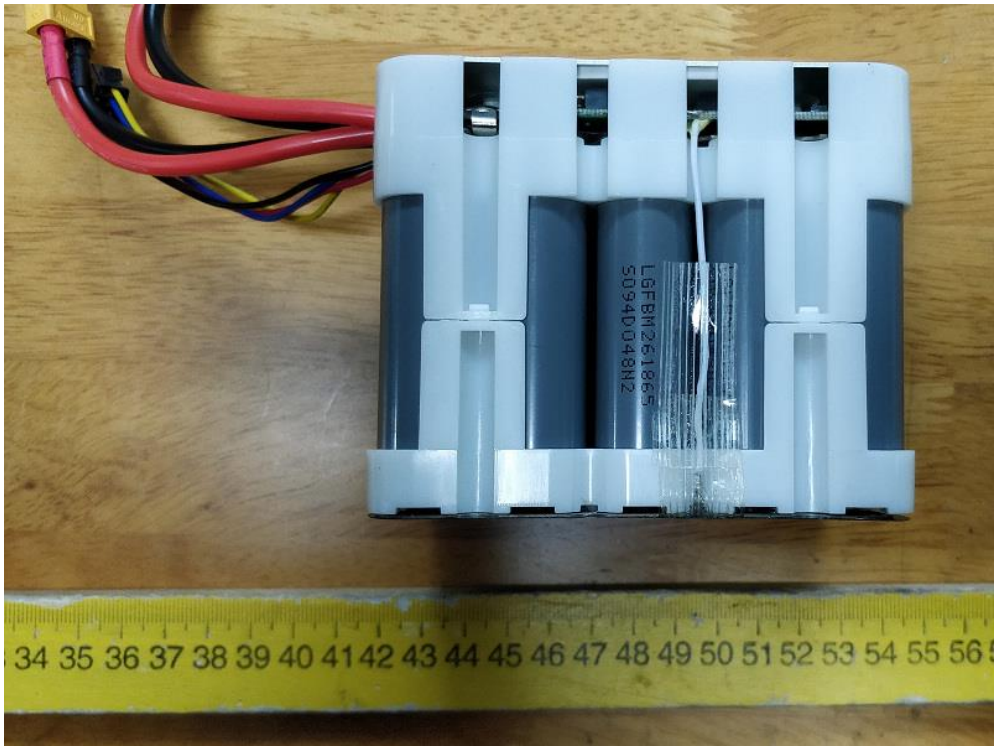
Attachment 1 : Photos and illustrations



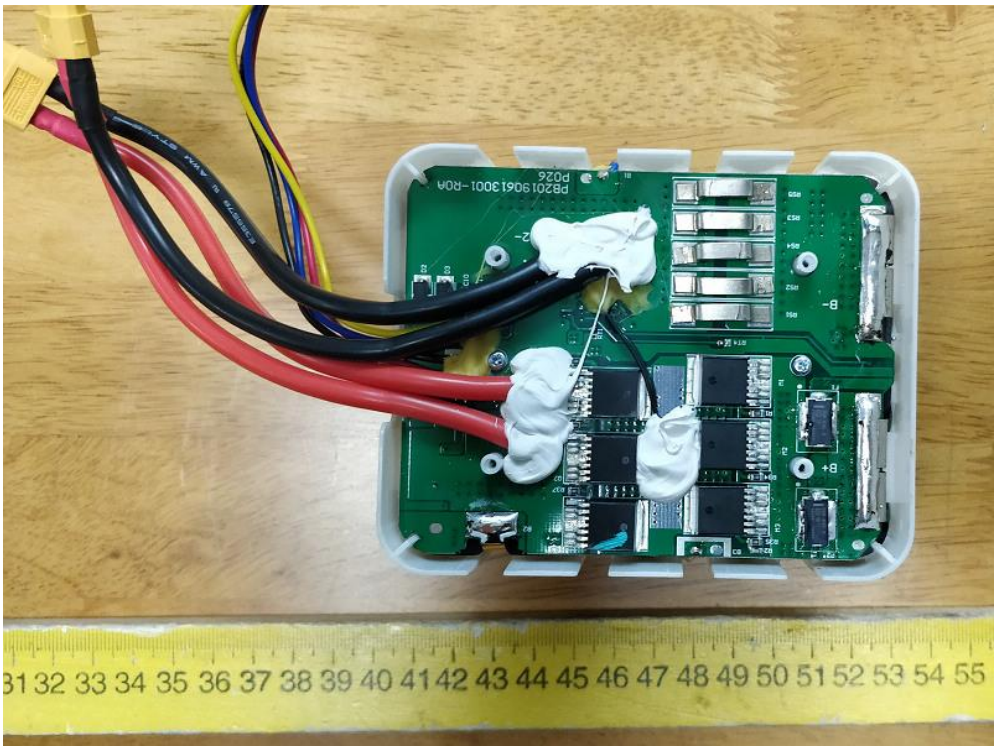
Internal View

Battery View

Attachment 1 : Photos and illustrations

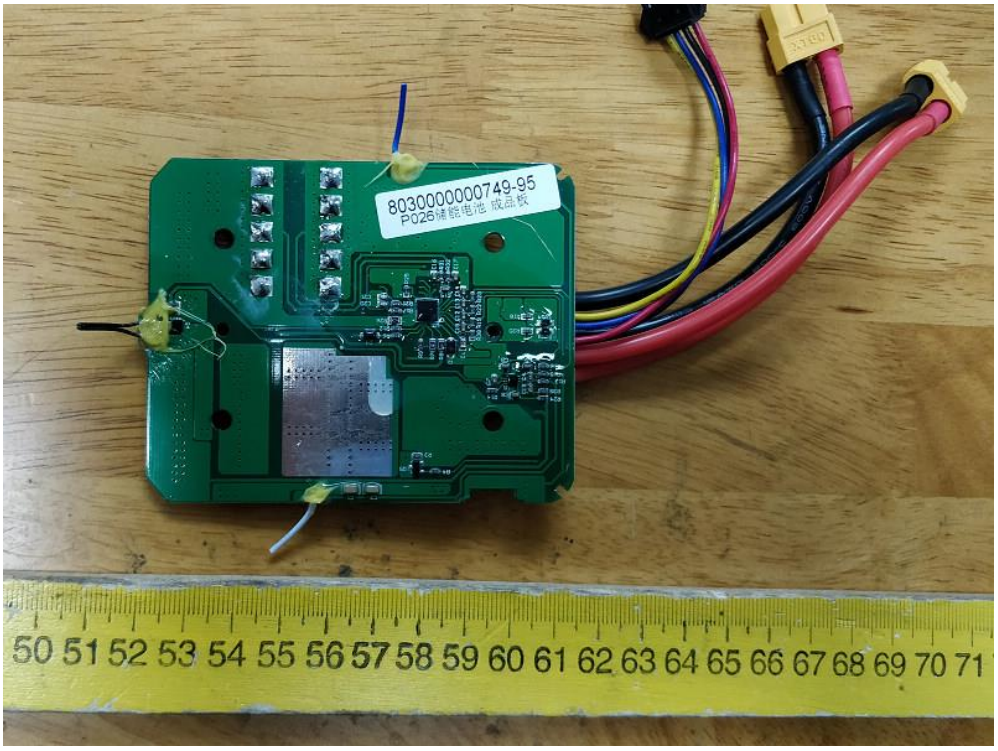


Battery View



Battery PCB View

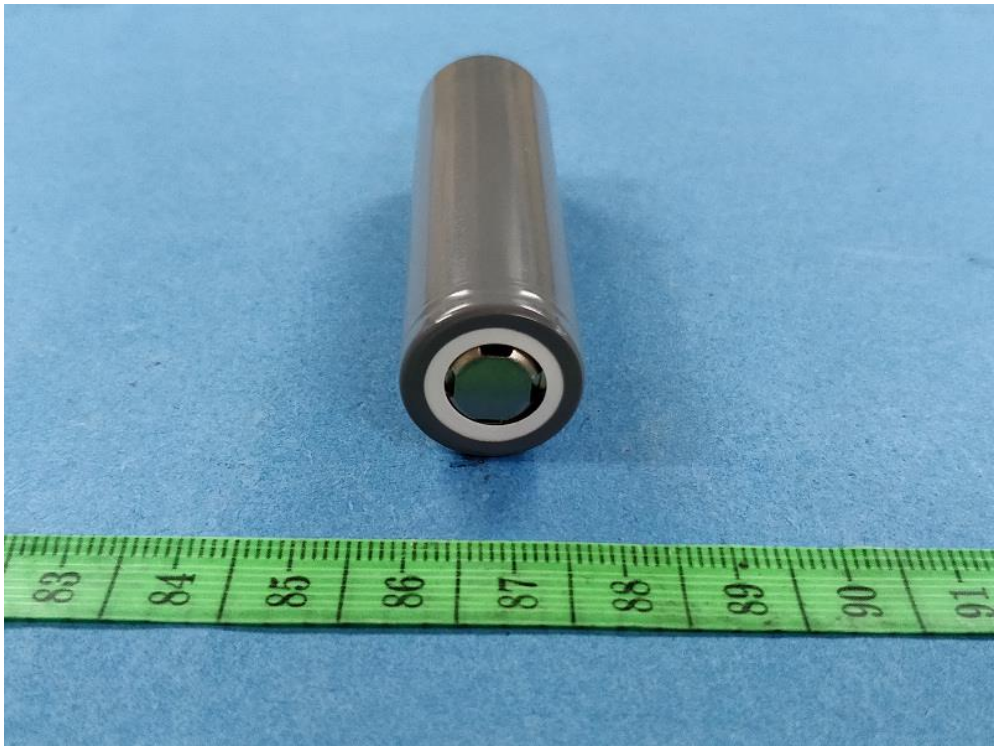
Attachment 1 : Photos and illustrations



Battery PCB View

Cell View

Attachment 1 : Photos and illustrations



Cell View

-END-