CK4W

cleankeys

USB-Dongle beiliegend

USB-Kabel beiliegend

EIGENSCHAFTEN

- Kabellose Tastatur mit vollständig geschlossener Oberfläche aus Gorilla®-Glas
- Abwasch- und desinfizierbar; daher ein hohes Niveau bei Hygiene und Sauberkeit
- Keylock-Funktion zum Reinigen der Tastatur
- Aufforderung zum Reinigen der Tastatur durch LED
- Komplettes Tastenlayout mit integriertem Touchpad
- 2,4 GHz Funk-Technologie
- Lautstärke und Sensitivität individuell einstellbar
- Rückseitige VESA-Befestigung
- Vielfältige Möglichkeiten der Individualisierung
- EMV gemäß EN 60601-1-2 Edition 4
- USB-Dongle und Ladekabel beiliegend
- **Bitte beachten:** Zum Laden des integrierten Lithium-Ionen-Akkus ist ein Netzteil >>***IN: 230V AC; OUT: 5V 1,0A DC USB-A***<< (nicht im Lieferumfang) erforderlich.

TECHNISCHE DATEN

ALLGEMEINES:	
Tastenanzahl:	103
Bauform:	Desktoptastatur
Gehäusematerial:	Kunststoff
Material Oberfläche:	0,8 mm Gorilla®-Glas
Schalttechnologie:	kapazitiv
Schutzgrad:	IP65
Schnittstelle:	USB (USB-Dongle, 2,4 GHz)
USB-Kompatibilität:	compliant with USB 2.0
Lade-Anschluß:	Buchse USB 2.0 Mini-B
Betriebstemperatur:	0 °C bis +45 °C
Lagertemperatur:	-10 °C bis +45 °C
Systemvoraussetzungen:	Win®, MacOS® u. Linux® *

Abmessungen:	470 x 167 x 25,4 mm
Abmessungen Dongle:	48 x 17 x 9 mm
Compliance:	
-- Europa:	CE
-- USA/Kanada:	FCC Part 15 Subpart B
-- Global:	REACH,
	RoHS-Selbsterklärung
Garantie:	4 Jahre auf die elektrische Funktion
TOUCHPAD:	
Wirkprinzip:	kapazitiv
Abmessungen:	60 x 42 mm

BESTELLINFORMATIONEN

Art.-Nr.	Produktbezeichnung	Layout
KR24230	TKR-103-TOUCH-RF-KGEH-VESA-WHITE-USB-DE	Deutsch
KR24231	TKR-103-TOUCH-RF-KGEH-VESA-WHITE-USB-US/EU	US/EU
KR25207	TKR-103-TOUCH-RF-KGEH-VESA-WHITE-USB-CH	Schweiz
KR25205	TKR-103-TOUCH-RF-KGEH-VESA-WHITE-USB-FR	Französisch
KR25206	TKR-103-TOUCH-RF-KGEH-VESA-WHITE-USB-SKAN	Skandinavisch
KR25211	TKR-103-TOUCH-RF-KGEH-VESA-WHITE-USB-UK	UK
Andere Layouts auf Anfrage.		

* wenn das Betriebssystem und die Hardware die Vorgaben der USB-2.0-Kompatibilität erfüllen

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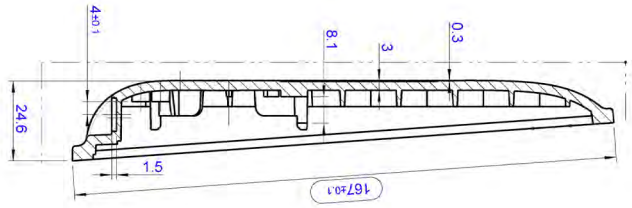
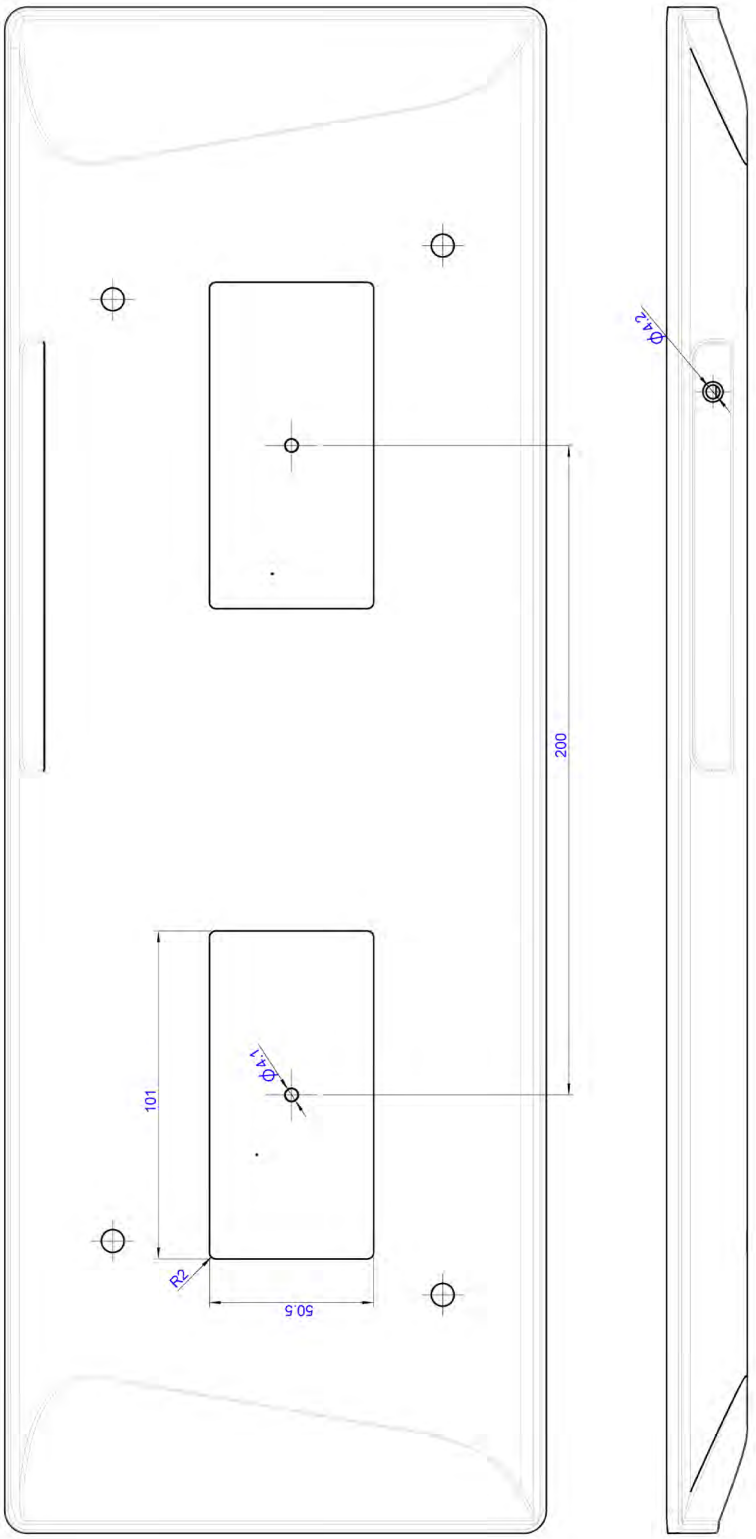
TECHNISCHE ZEICHNUNG (in mm)





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ZUSÄTZLICHE TASTENFUNKTIONEN DER CK4W

Über die LED-Leiste werden Akku-Ladezustand, die Einstellung von Sensitivität und Lautstärke sowie die Tastensperre angezeigt.

Fn	+	F10	**STATUS-TASTE** Beim Betätigen der Status-Taste wird über die LED-Leiste der Akku-Ladezustand in acht Stufen angezeigt.
Fn	+	F11	**Die SENSITIVITÄT kann wie folgt (aufsteigend) eingestellt werden.** Stufe 1 Stufe 2 Stufe 3 Stufe 4
Fn	+	F12	**Die LAUTSTÄRKE kann wie folgt (aufsteigend) eingestellt werden.** Stufe 1 Stufe 2 Stufe 3 Stufe 4 Stufe 5
keylock			**KEYLOCK-FUNKTION (Tastensperre)** Halten Sie die Keylock-Taste ca. 2 Sekunden gedrückt - währenddessen blinkt die LED-Leiste. Wenn sie dauerhaft grün leuchtet, sind die Tasten gesperrt. Zur Entsperrung halten Sie die Keylock-Taste ebenfalls 2 Sekunden gedrückt bis die LEDs erlöschen. Die Tasten sind dann wieder in Funktion.

REINIGUNG

Die Glasoberfläche kann während der Tastensperre mit herkömmlichen Reinigungs- oder Desinfektionsmitteln gereinigt werden. Die chemische Beständigkeit der Glasoberfläche kann je nach Konzentration der Lösung und den jeweiligen Umgebungsbedingungen variieren. Wir empfehlen daher eine sorgfältige Prüfung der verwendeten Reinigungs- und Desinfektionsmittel auf ihre Wirkung auf Glasoberflächen.

INDIVIDUELLE MODIFIKATIONEN

- Logo hinzufügen (1 - 4 farbig)
- Neues Länderlayout
- Neues GUI-Design
- Kabelkürzung
- Änderung des Keytables (HID-Standard)

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Shenzhen SaiJiaoYang Energy Technology Co.,Ltd

PACK QUALIFICATION REPORT No.:98761612

SUBJECT: SUMMARY OF QUALIFICATION OF SJY ACCORDING TO UNITED NATIONS DOCUMENT "TRANSPORT OF DANGEROUS GOODS, MANUAL OF TEST AND CRITERIA REV THIR"

NAME OF SAMPLE: _ LI-ION BATTERY (S844985-03X)

DATE: 20/12/2017

SITES: SHENZHEN , CHINA

Written By:	Luoyongzhong	Date:	20/12/2017
Approved By:	liyuefei	Date:	20/12/2017

OVERVIEW

No.	Test Item	Result	Note
T1	Altitude simulation	Pass	\
T2	Thermal test	Pass	\
T3	Vibration	Pass	\
T4	Shock	Pass	\
T5	External short circuit	Pass	\
T6	Crush	Pass	\
T7	Over charge	Pass	\
T8	Forced discharge	Pass	\

Remark: T7(Over charge) is only for batteries.

Mass loss limit

Mass loss (%) $=(M_1 - M_2)/M_1 * 100$

Mass M of cell or battery	*Mass loss limit*
$M < 1$ g	0. 50%
1 g$< M <$ 75g	0. 20%
$M \geqslant$ 75 g	0. 10%

Altitude simulation Test

Sample model:	S844985-03X
Purpose:	This test simulates air transport under low-pressure conditions.
Test procedure:	Test cells shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20 ± 5 °C).
Requirement:	cells meet this requirement if there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell after testing is not less than90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells at fully discharged states.
Charge :	@5000mA @ CV =4.2,up to I=50mA
Discharge :	@5000mA up to 3V

(i)1~4 four cells, at first cycle, in fully charged states,

(ii) 5~8 four cells, at first cycle, in fully discharged states,

(iii) 9~12 four cells after fifty cycles ending in fully charged states

(iv)13~16 four cells after fifty cycles ending in fully discharged states

No.	Before testing		After testing								
	Mass	Voltage	Mass	Mass loss%	Voltage	Voltage change rate%	Leakage	Venting	Disassembly	Rupture	Fire
1	85.8112	4.19	85.8105	0.00	4.18	99.76	NO	NO	NO	NO	NO
2	85.8934	4.18	85.8929	0.00	4.18	100.00	NO	NO	NO	NO	NO
3	85.8655	4.18	85.8654	0.00	4.17	99.76	NO	NO	NO	NO	NO
4	85.8315	4.17	85.8311	0.00	4.16	99.76	NO	NO	NO	NO	NO
5	85.8814		85.8814	0.00			NO	NO	NO	NO	NO
6	85.8326		85.8306	0.00			NO	NO	NO	NO	NO
7	85.8312		85.8308	0.00			NO	NO	NO	NO	NO
8	85.8541		85.8539	0.00			NO	NO	NO	NO	NO
9	85.8125	4.17	85.8125	0.00	4.16	99.76	NO	NO	NO	NO	NO
10	85.8801	4.16	85.8801	0.00	4.15	99.76	NO	NO	NO	NO	NO
11	85.8431	4.17	85.8431	0.00	4.17	100.00	NO	NO	NO	NO	NO
12	85.8608	4.18	85.8598	0.00	4.16	99.52	NO	NO	NO	NO	NO
13	85.8104		85.8102	0.00			NO	NO	NO	NO	NO
14	85.8619		85.8618	0.00			NO	NO	NO	NO	NO
15	85.8735		85.8735	0.00			NO	NO	NO	NO	NO
16	85.8504		85.8502	0.00			NO	NO	NO	NO	NO

Thermal test Data

Sample model:	S844985-03X
Purpose:	This test assesses cells seal integrity and internal electrical connections. The test is conducted using rapid and extreme temperature changes.
Test procedure:	Test cells are to be stored for at least six hours at a test temperature equal to 75 ± 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 is 30 minutes. This procedure is to be repeated 10 times, after which all test cells are to be stored for 24 hours at ambient temperature (20 ± 5 °C.). For large cells, the duration of exposure to the test temperature extremes should be at least 12 hours.
Requirement:	Cells meet this requirement if there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells at fully discharged states.
Charge :	@5000mA @ CV =4.2,up to I=50mA
Discharge :	@5000mA up to 3V

(i)1~4 four cells, at first cycle, in fully charged states,

(ii) 5~8 four cells, at first cycle, in fully discharged states,

(iii) 9~12 four cells after fifty cycles ending in fully charged states

(iv)13~16 four cells after fifty cycles ending in fully discharged states

No.	Before testing		After testing								
	Mass	Voltage	Mass	Mass loss%	Voltage	Voltage change%	Leakage	Venting	Disassembly	Rupture	Fire
1	85. 8105	4. 18	85. 8104	0. 00	4. 15	99.28	NO	NO	NO	NO	NO
2	85. 8929	4. 18	85. 8919	0. 00	4. 16	99.52	NO	NO	NO	NO	NO
3	85. 8654	4. 17	85. 8613	0. 00	4. 16	99.76	NO	NO	NO	NO	NO
4	85. 8311	4. 16	85. 8308	0. 00	4. 16	100.00	NO	NO	NO	NO	NO
5	85. 8814		85. 8806	0. 00			NO	NO	NO	NO	NO
6	85. 8306		85. 8301	0. 00			NO	NO	NO	NO	NO
7	85. 8308		85. 8300	0. 00			NO	NO	NO	NO	NO
8	85. 8539		85. 8522	0. 00			NO	NO	NO	NO	NO
9	85. 8125	4. 16	85. 8101	0. 00	4. 15	99.76	NO	NO	NO	NO	NO
10	85. 8801	4. 15	85. 8789	0. 00	4. 14	99.76	NO	NO	NO	NO	NO
11	85. 8431	4. 17	85. 8417	0. 00	4. 15	99.52	NO	NO	NO	NO	NO
12	85. 8458	4. 16	85. 8426	0. 00	4. 16	100.00	NO	NO	NO	NO	NO
13	85. 8102		85. 8102	0. 00			NO	NO	NO	NO	NO
14	85. 8618		85. 8612	0. 00			NO	NO	NO	NO	NO
15	85. 8735		85. 8730	0. 00			NO	NO	NO	NO	NO
16	85. 8502		85. 8496	0. 00			NO	NO	NO	NO	NO

Vibration test Data

Sample model:	S844985-03X
Purpose:	This test simulates vibration during transport.
Test procedure:	Cells 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 7 Hz and 200 Hz 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 positions of the battery. One of the directions of vibration must be perpendicular to the terminal face.
Requirement:	Cell meet this requirement if there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells at fully discharged states.
Charge :	@5000mA @ CV =4.2,up to I=50mA
Discharge :	@5000mA up to 3V

(i)1~4 four cells, at first cycle, in fully charged states,

(ii) 5~8 four cells, at first cycle, in fully discharged states,

(iii) 9~12 four cells after fifty cycles ending in fully charged states

(iv)13~16 four cells after fifty cycles ending in fully discharged states

No.	Before testing		After testing								
	Mass	Voltage	Mass	Mass loss%	Voltage	Voltage change%	Leakage	Venting	Disassembly	Rupture	Fire
1	85. 8004	4. 15	85. 8004	0. 00	4. 14	99.76	NO	NO	NO	NO	NO
2	85. 8919	4. 16	85. 8919	0. 00	4. 16	100.00	NO	NO	NO	NO	NO
3	85. 8613	4. 16	85. 8613	0. 00	4. 16	100.00	NO	NO	NO	NO	NO
4	85. 8308	4. 16	85. 8302	0. 00	4. 16	100.00	NO	NO	NO	NO	NO
5	85. 8806		85. 8806	0. 00			NO	NO	NO	NO	NO
6	85. 8301		85. 8301	0. 00			NO	NO	NO	NO	NO
7	85. 8212		85. 8212	0. 00			NO	NO	NO	NO	NO
8	85. 8585		85. 8576	0. 00			NO	NO	NO	NO	NO
9	85. 8101	4. 15	85. 8101	0. 00	4. 14	99.76	NO	NO	NO	NO	NO
10	85. 8725	4. 14	85. 8725	0. 00	4. 13	99.76	NO	NO	NO	NO	NO
11	85. 8417	4. 15	85. 8417	0. 00	4. 15	100.00	NO	NO	NO	NO	NO
12	85. 8426	4. 16	85. 8426	0. 00	4. 16	100.00	NO	NO	NO	NO	NO
13	85. 8102		85. 8102	0. 00			NO	NO	NO	NO	NO
14	85. 8506		85. 8500	0. 00			NO	NO	NO	NO	NO
15	85. 8785		85. 8785	0. 00			NO	NO	NO	NO	NO
16	85. 8425		85. 8423	0. 00			NO	NO	NO	NO	NO

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Shock test Data

Sample model:	S844985-03X
Purpose:	This test simulates possible impacts during transport.
Test procedure:	Test cells shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test cell. Each cell shall be subjected to a half-sine shock of peak acceleration of 150 gn and pulse duration of 6 milliseconds. Each cell 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 for a total of 18 shocks.
Requirement:	Cells meet this requirement if there is no mass loss, no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells at fully discharged states.
Charge :	@5000mA @ CV =4.2,up to I=50mA
Discharge :	@5000mA up to 3V
(i)1~4 four cells, at first cycle, in fully charged states,	
(ii) 5~8 four cells, at first cycle, in fully discharged states,	
(iii) 9~12 four cells after fifty cycles ending in fully charged states	
(iv)13~16 four cells after fifty cycles ending in fully discharged states	

No.	Before testing		After testing								
	Mass	Voltage	Mass	Mass loss%	Voltage	Voltage change%	Leakage	Venting	Disass embly	Rupture	Fire
1	85. 8004	4. 14	85. 8002	0. 00	4. 13	99.76	NO	NO	NO	NO	NO
2	85. 8919	4. 16	85. 8809	0. 01	4. 14	99.52	NO	NO	NO	NO	NO
3	85. 8613	4. 16	85. 8613	0. 00	4. 14	99.52	NO	NO	NO	NO	NO
4	85. 8302	4. 16	85. 8302	0. 00	4. 13	99.28	NO	NO	NO	NO	NO
5	85. 8806		85. 8795	0. 00			NO	NO	NO	NO	NO
6	85. 8301		85. 8295	0. 00			NO	NO	NO	NO	NO
7	85. 8212		85. 8212	0. 00			NO	NO	NO	NO	NO
8	85. 8501		85. 8501	0. 00			NO	NO	NO	NO	NO
9	85. 8101	4. 14	85. 8088	0. 00	4. 12	99.52	NO	NO	NO	NO	NO
10	85. 8725	4. 13	85. 8725	0. 00	4. 12	99.76	NO	NO	NO	NO	NO
11	85. 8417	4. 15	85. 8417	0. 00	4. 13	99.52	NO	NO	NO	NO	NO
12	85. 8426	4. 16	85. 8426	0. 00	4. 14	99.52	NO	NO	NO	NO	NO
13	85. 8102		85. 8102	0. 00			NO	NO	NO	NO	NO
14	85. 8500		85. 8462	0. 00			NO	NO	NO	NO	NO
15	85. 8785		85. 8783	0. 00			NO	NO	NO	NO	NO
16	85. 8423		85. 8417	0. 00			NO	NO	NO	NO	NO

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External short circuit test Data

Sample model:	S844985-03X
Purpose:	This test simulates an external short circuit.
Test procedure:	The cell to be tested shall be temperature stabilized so that its external case temperature reaches 55 ± 2 °C and then the cell shall be subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at 55 ± 2 °C. This short circuit condition is continued for at least one hour after the cell external case temperature has returned to 55 ± 2 °C. The cell must be observed for a further six hours for the test to be concluded.
Requirement:	Cells meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire within six hours of this test.
Charge :	@5000mA @ CV =4.2,up to I=50mA
Discharge :	@5000mA up to 3V
(i)1~4 four cells, at first cycle, in fully charged states,	
(ii) 5~8 four cells, at first cycle, in fully discharged states,	
(iii) 9~12 four cells after fifty cycles ending in fully charged states	
(iv)13~16 four cells after fifty cycles ending in fully discharged states	

No.	After testing					
	Max.External Temperature/°C	Leakage	Venting	Disassembly	Rupture	Fire
1	56. 3	NO	NO	NO	NO	NO
2	53. 2	NO	NO	NO	NO	NO
3	64. 7	NO	NO	NO	NO	NO
4	58. 5	NO	NO	NO	NO	NO
5	57. 1	NO	NO	NO	NO	NO
6	65. 9	NO	NO	NO	NO	NO
7	71. 8	NO	NO	NO	NO	NO
8	59. 2	NO	NO	NO	NO	NO
9	63. 9	NO	NO	NO	NO	NO
10	71. 1	NO	NO	NO	NO	NO
11	66. 3	NO	NO	NO	NO	NO
12	64. 8	NO	NO	NO	NO	NO
13	71. 2	NO	NO	NO	NO	NO
14	65. 7	NO	NO	NO	NO	NO
15	75. 4	NO	NO	NO	NO	NO
16	73. 6	NO	NO	NO	NO	NO

Crush test Data

Sample model:	S844985-03X
Purpose:	This test simulates an impact.
Test procedure:	The test sample cell is to be placed on a flat surface. A 15.8 mm diameter bar is to be placed across the centre of the sample. A 9.1 kg mass is to be dropped from a height of 61 ± 2.5 cm onto the sample.
Requirement:	Cells meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly and no fire within six hours of this test.
Charge :	@5000mA @ CV =4.2,up to I=50mA
Discharge :	@5000mA up to 3V

(i) 17~21 five cells at first cycle at 50% of the design rated capacity

(ii) 22~26 five cells after 50 cycles ending in fully discharged states

No.	After testing		
	Cells' max external temperature (°C)	Disassembly	Fire
17	98. 4	NO	NO
18	101. 3	NO	NO
19	95. 7	NO	NO
20	92. 4	NO	NO
21	86. 5	NO	NO
22	36.2	NO	NO
23	45. 1	NO	NO
24	31. 7	NO	NO
25	49. 6	NO	NO
26	28. 9	NO	NO

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Forced discharge test Data

Sample model:	S844985-03X
Purpose:	This test evaluates the ability of a primary or a rechargeable cell to withstand a forced discharge condition.
Test procedure:	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.
Requirement:	Rechargeable cells meet this requirement if there is no disassembly and no fire within seven days of the test.
Charge :	@5000mA @ CV =4.2,up to I=50mA
Discharge :	@5000mA up to 3V

(i) 27~36 ten rechargeable cells, at first cycle in fully discharged states,

(ii) 37~46 ten rechargeable cells after fifty cycles ending in fully discharged states.

No.	After testing		No.	After testing	
	Disassembly	Fire		Disassembly	Fire
27	NO	NO	37	NO	NO
28	NO	NO	38	NO	NO
29	NO	NO	39	NO	NO
30	NO	NO	40	NO	NO
31	NO	NO	41	NO	NO
32	NO	NO	42	NO	NO
33	NO	NO	43	NO	NO
34	NO	NO	44	NO	NO
35	NO	NO	45	NO	NO
36	NO	NO	46	NO	NO

	SJY ENERGY	版本：A 0 电芯型号：844985 日期：2016- 1- 11

Product Specification

for Lithium-ion Polymer Cells

聚合物锂离子电芯产品规格书

Model Number: 844985-5000mAh

产品型号：844985- 5000mAh

Prepared By 编制	Verified By 审核	Approved By 批准

Customer Approval 客户方确认	**Signature** 签署	**Date** 日期
	Company name: 公司名称	
	Company Stamp: 盖章	

版本号	内容描述	修改人	生效日期
A.0	新版发行		2016-1-11

1. SCOPE
范围

This document describes the performance characteristics and testing methods for Lithium-ion polymer cells.
本文件描述了深圳赛骄阳能源科技股份有限公司出品的聚合物锂离

2. PRODUCT TYPE AND MODEL NUMBER
产品类别和产品型号

2.1 PRODUCT TYPE
类别

Lithium-ion Polymer Cell
聚合物锂离子蓄电池

2.2 MODEL NUMBER
产品型号：844985

SPECIFICATION
产品基本特性

No. **序号**	Item **项目**	Characteristics **特性**	Remarks **备注**
3.1	Nominal Capacity **容量**	Minimum：5000mAh **最小：**5000mAh **典型：**5020mAh Typical:5020mAh	According to the standard charging after full charge, constant current discharge 0.5C5A to 2.75V. **按标准充电方式充满电后，以** 0.5C_5A **恒流放电到** 2.75V
3.2	Nominal Voltage **工作电压**	3.7V	
3.3	Charging Cut-off Voltage **最大充电终止电压**	4.2V	
3.4	Discharge Cut-off Voltage **最小放电终止电压**	2.75V	
3.5	Maximum Constant Charging Current **最大持续充电电流**	2500mA（0.5C）	
3.6	Maximum Continuous Discharging Current **最大持续放电电流**	2500mA（0.5C）	
3.7	Operating Temperature **工作温度范围**	Charge 0～45℃ **充电温度** 0～45℃ Discharge –20～60℃ **放电电温度** –20～60℃	

3.8	Storage Temperature 存储温度	1 个月内 -10～45℃ -10～45℃ for 1 month 6 个月内 -10～35℃ -10～35℃ for 6 months
3.9	Weight 重量	Approximate value 85g
3.10	Storage Voltage 存储电压	3.70-4.00V
3.11	Environmental request 环保要求	where requested RoHS standard. 满足 ROHS 要求

3. Dimensions
外形尺寸
Please refer the drawing in appendix.
见附图

4. Appearance
外观
No scratches, dirt, defect, leakage of electrolyte or gassing should be observed as a new product.
电池表面无划伤、脏点、变形、漏液、鼓气等缺陷。

6. Characteristics
特性

6.1 Electrochemical performance characteristics
电性能

No. 序号	Item 项目	Testing Method 测试方法	Requirements 标准
1	Standard Charge 标准充电	0.5Cconstant current charge to4.2V， then constant Vdtage until the charge current decrease to 0.02C. 0.5C_5A 恒流充电至 4.2V，再 4.2V 恒压至 0.02C_5A	
2	Rated Capacity 标称容量	CCCV at 4.2V (per 6.1.1) at room temp. (23±2℃), rest for 0.5-1 hrs then discharge at a constant current of 0.5C to 2.75V, testing will be terminated by either 5 cycles or any one discharge time exceeds 2 hrs 在环境温度为（23± 2）℃的条件下完全充电后静置 0.5～1 小时，以 0.5C_5A 放电至 2.75V，可循环 5 次，当有一次放电时间达到 2 小时，即可停止。	= 5000mAh

3	Cycle (23℃) 循环 寿 命 （23℃）	At 23 ± 2 ℃ ambient temperature, every 50 cycles for a capacity check, by a factor of 50, 1 ~ 49 times with 0.5C_5A charge and discharge, fiftieth times to the 0.2C_5A charge and discharge, repeated 1 times to 50 times between charge and discharge cycle, the use of 0.5h ~ 1H, and any fiftieth cycles of discharge time is below 3h, a recycled in accordance with the provisions of the fiftieth cycle, if the discharge time is less than 3h, is that the end of life. 在 23℃± 2℃的环境温度下,每 50 次循环做一次容量检查，以 50 的倍数表示,1 次～49 次用 0.5C_5A 充放电，第 50 次以 0.2C_5A 充放电，重复进行 1 次～50 次循环，充放电之间搁置 0.5h～1h，直至任一个第 50 次循环放电时间低于 3h 时，按照第 50 次循环的规定再进行一次循环，如果放电时间仍然低于 3h 时，则认为寿命终止。	Cycle life = 300 循环次数= 300 次
4	Internal Impedance 内阻	Internal impedance is measured on a 50% charged battery at 1KHz AC at ambient temperature（23± 2）℃。 环境温度（23± 2）℃，电池荷电 50%状态时以 1KHz 交流电测得的内部阻抗。	= 45mΩ
5	Capacity Retention 荷电保持能力	After fully charged (23 ± 2) in the 28 days of storage environment temperature, discharge at 0.2C5A to 2.75V. Then according to the standard charging mode, and then discharge at 0.2C5A to 2.75V.完全充电后在（23± 2）℃的环境中储存 28 天，以 0.2C_5A 放电至 2.75V。然后按标准充电方式充电后，再以 0.2C_5A 放电至 2.75V。	Remaining capacity=85% initial capacity. 放电容量=85%标称容量 recovery capacity=90% initial capacity 恢复容量=90%标称容量
6	55℃ Discharge 55℃ 放电	Fully charge cells per 6.1.1, store them at (55± 2)℃ for 2 hours, then discharge the cells to 2.75V at 0.2C. 完全充电后的电池放入（55± 2）℃的高温箱中恒温 2h 后，以 0.2C_5A 电流恒流放电至 2.75V。	Discharge capacity=95% initial capacity 放电容量=95%标称容量
7	-10℃Discharge -10℃ 放电	Fully charge cells per 6.1.1, store them at (-10 ± 2) ℃ for 4 hours, then discharge the cells to 2.75V at 0.2C_5A. 完全充电后的电池放入(-10± 2)℃的低温箱中恒温 4h 后，0.2C_5A 电流恒流放电至 2.75V。	Discharge capacity=60% initial capacity 放电容量=60%标称容量
8	0℃Discharge 0℃ 放电	Fully charge cells per 6.1.1, store them at (55± 2)℃ for 2 hours, then discharge the cells to 2.75V at 0.2C_5A. 完全充电后的电池放入(0± 2)℃的高温箱中恒温 2h 后，以 0.2C_5A 电流恒流放电至 2.75V。	Discharge capacity=85% initial capacity 放电容量=85%标称容量
9	The factory voltage 出厂电压	Check open circuit voltage (OCV) of cells prior to the delivery to customers 出货之后检验	3.88V-4.00V

6.2 Safety characteristic
安全特性

No. 序号	Item 项目	Test Method 测试方法	Requirements 标准
1	Overcharge 过充	Discharge cells to 2.75V at 0.2C_5A, then charge to 4.6V at 3C_5A and rest for 7 hours. 电池以 0.2C_5A 电流恒流放电至 2.75V，以电流 3 C_5A 限制电压 4.6V 的制式充电 7 小时。	No fire No explosion 不爆炸、不起火
2	Over Discharge 过放	Fully charge cells per 6.1.1, then discharge the battery to 2.75V with 0.2C_5A mA at room temperature, connect with external load of 30Ω for 7hours. 将电池按 6.1.1 充满电后，在环境温度 23± 2℃的条件下,以 0.2C_5A 放电至终止电压后,外接 30Ω 负载电阻放电 7h.	No fire No explosion 不爆炸、不起火
3	Heat Cycle 温度循环	The cell is fully charged with standard charging method, and then it is to be stored for 6 hour at a test temperature equal to 75± 2℃,followed by a storage for 6 hour at a test temperature equal to -40± 2℃, the maximum time interval between test temperature extremes is 30 min, this procedure is to be repeated for 32 times, after which all test cells are to be stored for 6 hours at ambient temperature (23± 2℃). 将用标准充电方法充满电的电芯放入 75± 2℃的环境中搁置 6h,再在-40± 2℃条件下搁置 6h，两个极端温度的变化时间间隔最长为 30min，如此循环 10 次，试验结束后将电芯取出，在 23± 2℃环境中搁置 6h。	No leakage, no fire and no explosion 不泄露、不起火、不爆炸
4	Mechanical shock 机械冲击	The battery is fixed on the test equipment. Each in three perpendicular directions under the impact of an equivalent. At least one direction perpendicular to the width of the battery. Each shock according to the following method: within the first 3 ms, minimum average speed of 735 m/s², peak acceleration should be between 1225 m/s² and 1715 m/s², pulse duration for ms to 6 ms + 1. 将电池固定在试验设备上。在三个相互垂直的方向上各承受一次等值的冲击。至少一个方向垂直于电池的宽面。 每次冲击按下述方法进行：在最初的 3ms 内，最小平均加速为 735m/s²，峰值加速应该在 1225m/s² 和 1715 m/s² 之间，脉冲持续时间为 6ms± 1ms。	No leakage, no fire and noexplosion, 不泄露、不起火、不爆炸

6.3 Reliability

环境适应性

No. 序号	Item 项目	Test Method 测试方法	Requirements 标准
1	Humidity Test 高温高湿	Fully charge cells per 6.1.1, stored them at 40± 2℃ with 90%～95RH% for 48 hours. Then the cells are placed at room temperature to "dry out" for 2 hours. then discharge the cells to 2.75V at 0.2C_5A. 将按 6.1.1 充满电的电池放入 40± 2℃、相对湿度为 90%～95%的恒温湿箱中搁置 48h 后，取出电池在环境温度 20± 5℃的条件下搁置 2h。以 0.2C_5A 电流放电至 2.75V	No deformation, no corrosion, no leakage, no leakage, no rupture, no fire and no explosion, discharge time shall not be less than 3h. 无变形、无锈蚀、不泄漏、不泄气、不破裂、不起火和不爆炸，放电时间应不低于 3h。
2	Low Pressur Test 低压测试	The fully charged cell is to be stored for 6 hours at an absolute pressure of 11.6kpa and a temperature of 23± 2℃. 将充满电的电芯在绝对压力为 11.6kpa、23± 2℃条件下贮存 6 小时。	No explosion, no fire and no leakage 不爆炸、不起火、不泄露
3	Drop Test 跌落测试	The cell is fully charged with standard charging method, standby for one hour and then it is submitted to free fall at a height of 1.0m down to one solid board with thickness of 20mm. It should be fallen for 2 times on each direction. 将电芯用标准充电方法充满电，放置 1h，将电芯从 1.0m 高度自由落到 20mm 厚的硬木板上。每个方向上各试验 2 次。	No leakage, no smoke, no explosion and no fire 不泄露、不冒烟，不起火，不爆炸
4	Vibration 振动	Battery charged by the regulation, after the battery is fixed on the vibration table, don't make the battery out of shape, with sinusoidal vibration, and within 15 min in logarithmic sweep from 7 Hz frequency sweep to 200 Hz and return to the 7 Hz. Vibration along three mutually perpendicular direction of sample (one direction is perpendicular to the plane of the cathode) must match the sample, according to the logarithmic sweep in each direction way to 12 repetitions, vibration 3h. Logarithmic frequency sweeping method is as follows: 7 Hz ~ 18 Hz maintain peak acceleration of 9.8 m/s2. Hold the amplitude at 0.8 mm (displacement of 1.6 mm) until the peak acceleration of 78.4 m/s 2 (frequency is about 50 hz). Keep 78.4 m/s2 peak acceleration until the frequency increased to 200 Hz. 电池按规定充满电后，将电池固定在振动台上，不可使电池变形，采用正弦波进行振动，并以对数扫频方式在 15min 内从 7Hz 扫频到 200Hz 并返回到 7Hz。振动沿样品互相垂直的三个方向（其中一个方向必须与样品正负极所在平面垂直）进行，每个方向按上述对数扫频方式重复 12 次，振动 3h。	No leakage, no fire and no explosion. 不泄露、不起火、不爆炸。

		对数扫频方式如下：7Hz～18Hz 保持 9.8m/s2 的峰值加速度。将振幅保持在 0.8mm（位移为 1.6mm）直至峰值加速度达到 78.4m/s 2（频率约为 50Hz）。保持 78.4m/s2 的峰值加速度直到频率增长到 200Hz。	
5	60℃ 7days Storage 60℃ 7days 存储	The capacity of the cell is tested by fully charged and discharged with standard method. Charging the cell with standard charging method, rest for one hour, and then it is to be stored for 7days at a test temperature equal to 60± 2° C, after test the cells are to be stored for 2 hours at ambient temperature (23± 2℃), then test the thickness and residual capacity of the cell with0.2C_5A to2.75V . 用标准充放电方法测试电芯容量。将电芯用标准充电方法充满电，静置 1h，在 60± 2° C 的测试温度下搁置 7days，测试结束后将电芯取出在环境温度(23± 2 ℃) 下静置 2h 后，测试电芯的厚度，用 0.2C_5A 放电至 2.75V 测试电芯的剩余容量。	No explosion, no fire, no leakage and nosmoke, the discharge capacity retention ratio should be no less than 60%, thickess offset of the cell should be no more than 110%. 不爆炸、不起火、不泄露、不冒烟，剩余容量不低于 60%， 厚度膨胀不超 110%。

7. Standard Testing Environment
   标准测试环境
   Temperature : 23± 2℃
   温度：23± 2℃
   Relative humidity : 45± 20%（unless specially requested）
   相对湿度：45± 20% （除非另外要求）
8. Required Protective Functions
   保护功能要求
   To ensure safety, the cells need to be assembled with protective circuitry to prevent abusive situations occurring such as over charge and over discharge or over current. The charger and protective circuitry should be consistent with the requirements listed below:
   当锂离子蓄电池在高于允许的电压或电流的情况下工作，电解液可能会分解，这样会影响到电池的安全性能。如果电池的电压低于 1.0V，电池的性能会恶化。因此，在电池上必须配备有“ 热保险丝” 和保护线路板以防止电池出现过充、过放和过流现象。为确保安全,充电器和保护电路应符合以下要求：

No 序号	Device 单 元	Items 项 目	Requirements 要 求
1	Charger 充电器	Charge termination voltage 充电终止电压	4.200±0.049V
2	Protective Circuitry (For reference only) 保护电路 (供参考)	Overcharge detection voltage 过充保护电压	4.275±0.025V
3		Overcharge release voltage 过充恢复电压	4.175±0.050V

4		Discharge termination voltage 放电终止电压	2.75±0.10V
5		Over discharge detection voltage 过放保护电压	2.45±0.08V
6		Over discharge release voltage 过放恢复电压	2.75±0.10V
7		Over discharge detection value 过流保护值	2.7±0.2A

9.Warranty

保质期限

Warranty period for this product is 12 months starting from the date when the products left the door of manufacturer.

保质期是从出厂日期(喷码)开始起十二个月.

10. Liability

产品责任

The user has to operate the products according to the instructions printed on the battery label or follow the advices described in this Product Specification for Lithium-ion Polymer Cells. In case the battery were overheated or even catch fire or explosion caused by mishandling of the user side, SJY Energy will not be liable for the loss caused by any of such mishandling.

SJY Energy will notify the users in written form if any modifications in specification, raw material, production process control.

您必须严格遵守深圳赛骄阳科技能源规格书和文件后面的注释使用电池，由于误用会引起电池过热，发生火灾或爆炸。对于没有按照规格书进行操作所造成的任何以外事故，深圳赛骄阳科技能源不负担任何责任。

如果规格书、原材料、生产过程或生产控制系统发生改变，改变的信息将会随质量和可靠性数据以书面形式通知消费者。

11. Battery Packing Label

包装电池上的标示

The following warnings should be indicated on the battery pack labels.

以下警告应注明在包装后的电池上

Use a specified charger.

使用规定的充电器。

Do not throw the battery into fire, or heat.

不要将电池投入火中或加热。

Do not short-circuit the battery terminals.

不要将电池两端短路。

Do not disassemble the battery.

不要将电池分解拆散。

12. Warnings and Cautions in Handling the Lithium-ion Battery

电池使用时警告事项及注意事项

To prevent potential leaking, overheating or explosion of batteries please be advised to take following precautions:

为防止电池可能发生泄漏, 发热、爆炸, 请注意以下预防措施

WARNINGS!

警　　告　！

Do not immerse the battery in water or seawater, and keep the battery in a cool dry environment during stands by period.

严禁将电池浸入海水或水中, 保存不用时, 应放置于阴凉干燥的环境中。

Do not use or leave the battery near a heat source such as fire or heater.

禁止将电池在热高温源旁, 如火、加热器等使用和留置。

When recharging, use the battery charger specifically for that purpose.

充电时请选用锂离子电池专用充电器。

Do not reverse the position (+) and negative (-) terminals.

严禁颠倒正负极使用电池。

Do not connect the battery to an electrical outlet.

严禁将电池直接接入电源插座。

Do not dispose the battery in fire or heat.

禁止将电池丢于火或加热器中。

Do not short-circuit the battery by directly connecting the positive (+) and negative (-) terminal with metal objects such as wire.

禁止用金属直接连接电池正负极短路

Do not transport or store the battery together with metal objects such as necklaces, hairpins etc.

禁止将电池与金属, 如发夹、项链等一起运输或贮存。

Do not strike or throw the battery against hard surface.

禁止敲击或抛掷、踩踏电池等。

Do not directly solder the battery and pierce the battery with a nail or other sharp object.

禁止直接焊接电池或用指甲或其它尖锐物体刺穿电池。

Outer metal conduct can not contact the aluminium layer in AL laminate film,especially with electrification ,which will be “ black spot ” and swelling easily.

禁止外层金属导体与铝塑膜中的铝层接触，尤其是带电情况，易产生“ 黑点” 现象，引起鼓胀。

Do not use sharp things to hit the battery.

禁止用尖锐部件碰撞电池。

禁止在高温下（炙热的阳光下或很热的汽车中）使用或放置电池, 可能会引起电池过热、起火或功能失效、寿命减短。

CAUTIONS!

注意

Do not use or leave the battery at very high temperature (for example, at strong direct sunlight or in a vehicle in extremely hot weather). Otherwise, it can overheat or fire or its performance will be degenerate and its service life will be shortened.

禁止在高温下（炙热的阳光下或很热的汽车中）使用或放置电池, 可能会引起电池过热、起火或功能失效、寿命减短。

Do not use it in a location where static electricity is rich, otherwise, the safety devices may be damaged, causing a harmful situation.

禁止在强静电和强磁场的地方使用, 否则易破坏电池安全保护装置, 带来不安全的隐患。

In case the electrolyte gets into the eyes due to the leakage of battery, do not rub the eyes! Rinse the eyes with clean running water, and seek medical attention immediately. Otherwise, it may injure eyes or cause a loss of sight.

如电池泄露, 电解液进入眼睛, 请不要揉擦, 用清水冲洗眼睛, 立即送医治疗, 否则会伤害眼睛

If the battery gives off an odor, generates heat, becomes discolored or deformed, or in any way appear abnormal during use, recharging or storage, immediately remove it from the device or battery charger and place it in a contained vessel such as a metal box.

如果电池发出异味、发热、变色、变形或使用、贮存,充电过程中出现任何异常，立即将电池从装置或充电器中移离并停用。

In case the battery terminals are contaminated, clean the terminals with a dry cloth before use. Otherwise power failure or charge failure may occur due to the poor connection between the battery and the electronic circuitry of the instrument.

如果电池发出异味、发热、变色、变形或使用、贮存,充电过程中出现任何异常，立即将电池从装置或充电器中移离并停用。

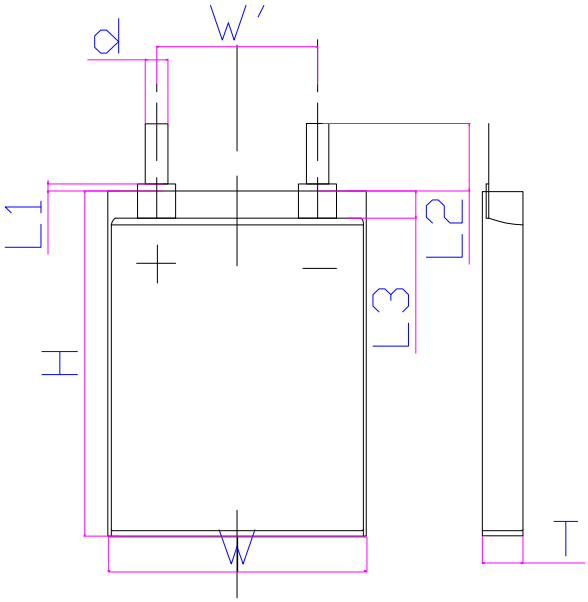
Be aware discarded batteries may cause fire, tape the battery terminals to insulate them before disposal.

废弃之电池应用绝缘纸包住电极,以防起火、爆炸。

附图：单位：mm

Attachment：Unit：mm

检测项目	技术规格
T	$8.4^{+0.0}_{-0.4}$ mm
W	$49.0^{+0.0}_{-1.5}$ mm
H	$85.0^{+0.0}_{-1.0}$ mm
L1	0.2-2.0 mm
L2	7.0± 1.0 mm
L3（参考值）	3.5± 0.5 mm
W '	26.0± 2.0 mm
d	5.0± 0.2 mm
折边	单折边包边



LITHIUM CELL/BATTERY TEST SUMMARY AND SUPPLIER INQUIRY

IN ACCORDANCE WITH SUB-SECTION 38.3
OF MANUAL OF TESTS AND CRITERIA

Name of cell/battery (taken from field 1)
S844985-03X - Lithium-ion poly

7. Physical description of cell / battery
Lithium-ion polymer cell

8. Model numbers
E844985-03X

TESTS AND RESULTS

9. **List of tests conducted and results** - Mark N/A, pass or fail with an "•"	N/A	pass	fail
T1 - Altitude simulation	○	•	○
T2 - Thermal Test	○	•	○
T3 - Vibration	○	•	○
T4 - Shock	○	•	○
T5 - External Short Circuit	○	•	○
T6 - Impact / Crush	○	•	○
T7 - Overcharge	○	•	○
T8 - Forced Discharge	○	•	○
	○	○	○
	○	○	○

10. Reference to assembled battery testing requirements	N/A	

11. Reference to the revised edition of the Manual of Tests and Criteria used and to amendments thereto

LITHIUM CELL/BATTERY TEST SUMMARY AND SUPPLIER INQUIRY

IN ACCORDANCE WITH SUB-SECTION 38.3
OF MANUAL OF TESTS AND CRITERIA

N/A = Not Applicable

1. Name of cell / battery
S844985-03X - Lithium-ion polymer cell

2. Manufacturer of cell / battery	
Name	ShenZhen SaiJiaoYang Energy Technology Co.,Ltd
Address	3# China Jingneng Science and Technology in Environmental Industrial, 2# Baole
Phone	+44 (0)800 2425841
Email	sales@ibt-power.com
Website	www.ibt-power.com

3. Test laboratory of cell / battery	
Name	ShenZhen SaiJiaoYang Energy Technology Co.,Ltd
Address	3# China Jingneng Science and Technology in Environmental Industrial, 2# Baole
Phone	+44 (0)800 2425841
Email	sales@ibt-power.com
Website	www.ibt-power.com

4. ID-number and date			
Unique test report identification number	98761612	Date of test report	20/12/2017

DESCRIPTION OF CELL / BATTERY

5. Mark the type of cell/battery with an "•"			
(•)	Lithium ion cell	Lithium metal cell	( )
( )	Lithium ion battery	Lithium metal battery	( )
( )	Lithium hybrid battery		

6. Parameters	Cell	Battery
Mass in gram (g):	85	
Lithium ion: Indicate watt-hour rating (Wh):	18.5	
Lithium metal: Indicate lithium metal content in gram (g):	N/A	
Lithium hybrid: Indicate lithium metal content in gram (g) and watt-hour rating (Wh):		g Wh

LITHIUM CELL/BATTERY TEST SUMMARY AND SUPPLIER INQUIRY

IN ACCORDANCE WITH SUB-SECTION 38.3
OF MANUAL OF TESTS AND CRITERIA

Name of cell/battery (taken from field 1)
S844985-03X - Lithium-ion poly

ADDITIONAL SUPPLIER INQUIRY

12. Quality management system for manufacturing cells / batteries Does the manufacturer of the cell/battery manufacture the products based on a documented quality management system according to transport regulations?	●	YES	NO	
13. Are the following parameters exceeded? Lithium ion cell: more than 20 Wh Lithium ion battery: more than 100 Wh Lithium metal cell: more than 1 g Lithium Lithium metal battery: more than 2 g Lithium Lithium hybrid Battery: more than 1,5 g Lithium and/or more than 10 Wh		YES	NO	●

Check point 14 – 16 need to be answered when 13 has been ticked "YES":						
14. Does each cell / battery incorporates a safety venting device or is designed to preclude a violent rupture under normal conditions of carriage?			●	YES	NO	
15. Is each cell / battery equipped with an effective means of preventing external short circuits?			●	YES	NO	
16. Is each battery containing cells or series of cells connected in parallel equipped with effective means as necessary to prevent dangerous reverse current flow (e.g. diodes, fuses, etc.)?		N/A	●	YES	NO	

17. Only in air transport: State of Charge (SoC) for UN 3480 Lithium ion cells/batteries and lithium polymer cells/batteries				
State of Charge (SoC) max. 30 %	●	YES	NO	

CELLS/BATTERIES INSTALLED IN EQUIPMENT

18. Check point 18 needs to be answered when the cells / batteries are installed in articles:						
18.a) Only button cells enclosed?				YES	NO	
18.b) Number of enclosed cells (other than button cells)/batteries per equipment						
	Enclosed cells per equipment		Enclosed batteries per equipment			
When the equipment is intentionally active/switched on during transport e.g. data loggers:						
18.c) Confirmation that no dangerous amount of heat is emitted from the equipment		N/A		YES	NO	
18.d) Confirmation that the equipment when transported by air fulfills the defined air transport standards for electromagnetic radiation according to DO-160		N/A		YES	NO	

19. Place, Date	**20. Title, Surname, First name**	**21. Company stamp and signature**
Shenzhen 03/12/19	Ms YIYI Wang	