Certification Package – Dock & Charge line

1. Commitment to safety standard
2. Declaration of Conformity (DoC)

Note:

Some documents attached are only an abstract
and not the full report due to the size of its content.
For the full reports, please ask your sales responsible.

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June, 2016

Q2Power Products – Commitment to global standards

Compliance is a focal point at Q2Power AG and the foundation supporting "Quality 2 Power Products".

Understanding standardisation and its corresponding norms is a prerequisite for producing quality products and is reflected in tested and certified products.

We work in excellent cooperation with the most renowned state-approved test laboratories (Notified Bodies) in order to test our products under the latest international conditions and requirements.

We achieve lasting quality and competitive pricing through our close cooperation with local and international standardisation bodies and committees, which enables us to anticipate and take account of any possible future product requirements.

We shall be very pleased to present you with our in-depth knowledge and provide you with a sample of approved certificates and test reports.
For the product of your choice, you can request the "DoC and Certification Pack" today, which will be sent to you immediately.
We kindly ask you to understand that we can only provide you with our full test reports following a non-disclosure agreement, since they contain valuable and sensitive company information.

If you have any further questions regarding Q2P, please do not hesitate to contact us at your convenience.

Q2Power AG

Hansjörg Wittwer
CEO

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Declaration of conformity

We,

Q2Power AG, Industriering 31, 9491 Ruggell, Liechtenstein

declare on our own sole responsibility, to whom it may concern, that the product

Type q2power – Dock & Charge line

is in conformity with the following laws and standards or other name normative documents:

- EURO plug complies to the relevant standard EN 50075

For the safety evaluation and compliance to the directive LVD "Low Voltage Directive" 2014/35/EU the following standard(s) are applied:

- EN 60950-1 (ed.2); am1: 2009; am2: 2013

For the safety evaluation of the battery and battery cell the following standard is applied:

- IEC 62133
- UN 38.3
- IEC 61960

For the passive and active harmonic line current reduction evaluation and compliance to EMC Directive 2014/30/EU:

- EN61000-3-2:2014
- EN61000-3-3:2013
- EN61204-3:2000
- EN55024:2010 + A1:2015
- EN55032:2015

For the Regulation of ecodesign requirements for external power supplies, the product is complying to:

- EN 50563:2011; A1:2013 // ErP 2009/125/EC

For the Regulation of REACH and RoHS2:

- REACH Directive 1907/2006
- RoHS2 Directive 2011/65/EU

For the Status of the battery charge level before delivery (only for version with built-in battery):

- Equal or less than 30% of the nominal full charge

Place and Date:

Liechtenstein, 9491 Ruggell, 11.07.2017

Hansjörg Wittwer
CEO

Test Report issued under the responsibility of:

DEKRA

TEST REPORT
IEC 62133
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications

Report Number. .....:	4331928.50
Date of issue .....:	2017-03-14
Total number of pages.....	30 pages
Applicant's name.....:	Q2POWER AG
Address .....:	Industriering 31, 9491 Ruggell, Liechtenstein
Test specification:	
Standard .....:	IEC 62133: 2012 (Second Edition)
Test procedure .....:	Type test
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC62133B
Test Report Form(s) Originator ....:	UL(Demko)
Master TRF.....:	Dated 2013-03
Test item description .....:	Rechargeable Lithium polymer battery
Trade Mark .....:	Q2POWER AG
Manufacturer.....:	ShenZhen YW New Energy Technology Co., Ltd. No.817, Rongtai Building, Longhua district, Shenzhen, Guangdong, China
Model/Type reference .....:	624852PA
Ratings .....:	3,7 Vdc, 2000 mAh

Testing procedure and testing location:			
☒	**Testing Laboratory:**	DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch	
Testing location/ address ..... :		Building A3, No.3 Qiyun Road, Science City, Guangzhou Hi-Tech Industrial Development Zone, Guangzhou, P.R. China	
Tested by (name + signature) ..... :		Lyne Wang	Lyne Wang .....
Approved by (name + signature) ..... :		Alger Yang	.....

List of Attachments (including a total number of pages in each attachment): Attachment 1: Photos and illustrations (5 pages)	
Summary of testing:	
Tests performed (name of test and test clause): Model 624852PA was subjected to full tests as far as applicable.	**Testing location:** DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch Building A3, No.3 Qiyun Road, Science City, Guangzhou Hi-Tech Industrial Development Zone, Guangzhou, P.R. China
Summary of compliance with National Differences **List of countries addressed:** **N/A**	

Copy of marking plate (representative)

Remark:

- The cells were used in the manufacture of a battery.

Test item particulars.....:	Rechargeable Lithium polymer battery
Classification of installation and use.....:	Portable use
Supply connection.....:	N/A
Recommend charging method declaired by the manufacturer ..... :	CC/CV
Discharge current (0,2 I_t A) ..... :	400 mA
Specified final voltage ..... :	2,75 V
Chemistry ..... :	☐ nickel systems ..... ☒ lithium systems
Recommend of charging limit for lithium system	
Upper limit charging voltage per cell.....:	4,2 Vdc (considered 4,25 Vdc according to the standard)
Maximum charging current .....:	1000 mA
Charging temperature upper limit .....:	45 ºC
Charging temperature lower limit.....:	10 ºC
Polymer cell electrolyte type ..... :	☐ gel polymer ..... ☒ solid polymer
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	2016-09-07
Date (s) of performance of tests .....:	2016-09-07 to 2016-10-19

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.
"(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.

The sample has been tested and found compliant with the requirement of the safety standards listed below:
IEC 62133: 2012 with C1:2013,
EN 62133: 2013

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) ..... :	Dongguan Liaobu Shensen electronic Ltd. Si Hai Industry, Kengkou, Liaobu, Dongguan, Guangdong, China
General product information: Rechargeable Li-ion battery, including one single cell (cell model ICS 624852) and protection circuit.	

160008222171

中国认可
国际互认
检测
TESTING
CNAS L0095

No. :RZUN2016-2905

检 测 报 告
TEST REPORT

UN38.3

NAME OF SAMPLE: Rechargeable Li-ion Battery
产品名称： 锂离子聚合物电池

CLIENT: Q2 Power AG
委托单位： -

CLASSIFICATION OF TEST: Commission Test
检测类别： 委托测试

威凯检测技术有限公司
Vkan Certification & Testing Co., Ltd.

检 测 报 告
TEST REPORT

Name of samples: Rechargeable Li-ion Battery 样品名称:锂离子聚合物电池	Type/Model: 型号规格: 624852 3,7 V 2000mAh
Appearance: white 样品外观颜色:白色	Trade mark: 商标：-
Commissioned by: Q2 Power AG 委托单位: -	Manufacturer: Q2 Power AG 生产单位: -
Commissioner address: Industriering 31, 9491 Liechtenstein 委托单位地址: -	Manufacturer address: Industriering 31, 9491 Liechtenstein 生产单位地址: -
Classification of test: Commission Test 检测类别: 委托测试	Quantity of sample: 39 cells 样品数量: 39 个电芯
Tested according to: 测试标准: ST/SG/AC.10/11/Rev.6/Section 38.3	Sample identification: 样品标识序号: c1#~c39#
Receiving date: 接样日期：2016-11-01	Means of receiving: Submitted by commissioner 接样方式：委托单位送样
Completing date: 完成日期：2017-03-07	Test item: 8 items 测试项目：8 项

Test conclusion:
检测结论:

The Rechargeable Li-ion batteries submitted by Q2 Power AG are tested according to Section 38.3 of the sixth Revised Edition of the Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria (ST/SG/AC.10/11/Rev.6/Section 38.3). The test items are full items. The test results comply with the relevant requirements of the standard.

由 Q2 Power AG 送检的锂离子聚合物电池，依据《关于危险品货物运输的建议书》试验和标准手册第六修订版第 38.3 节进行检测，试验为全项目，测试结果符合标准相关要求。

Seal of CVC

CVC 印章

Date of issue:
签发日期:

Approved by: 批准：

Reviewed by: 审核：

Tested by: 检测：

Description and illustration of the sample:
样品说明及描述:

The sample's status is good
样品状况良好。

Test item 测试项目	Sample No. 样品编号	State 状态	Remark 备注
T.1~T.5	c1#~c10#	at first cycle, in fully charged state 第一个交替充电放电周期完全充电状态	-
T.6	c11#~c15#	at first cycle at 50% of the design rated capacity 第一个交替充电放电周期充电到设计额定容量的 50%	-
T.7	c1#~c4#	at first cycle, in fully charged state 第一个交替充电放电周期完全充电状态	using undamaged samples previously used in tests T.1 to T.5 使用试验 T.1 至 T.5 未损坏的样品
	c36#~c39#	after fifty cycles ending in fully charged state 第五十个交替充电放电周期完全充电状态	-
T.8	c16#~c25#	at first cycle, in fully discharged state 第一个交替充电放电周期完全放电状态	-
	c26#~c35#	after fifty cycles ending in fully discharged state 第五十个交替充电放电周期完全放电状态	-

Description of the sampling procedure:
取样程序的说明:

/

Description of the deviation from the standard, if any:
测试结果不符合标准项的说明:

/

Remarks:
备注：

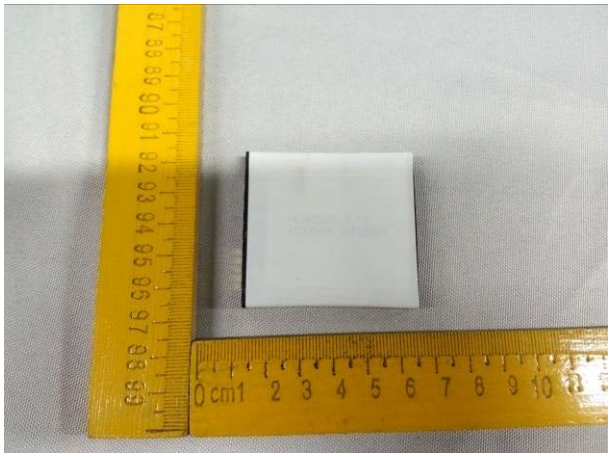
Throughout this report a comma is used as the decimal separator.
本报告中以逗号代替小数点。

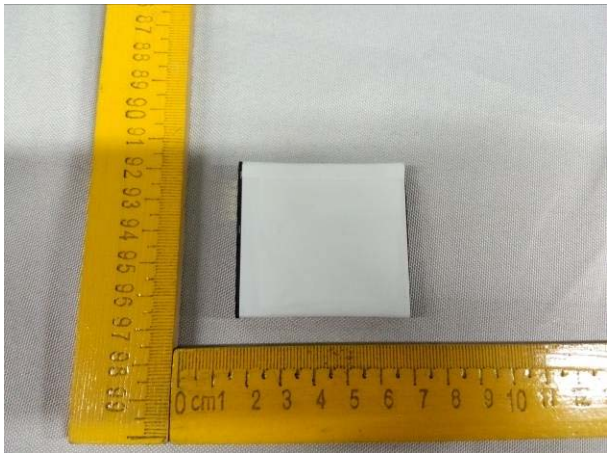
The Rechargeable Li-ion batteries submitted by Q2 Power AG are single cell batteries. According to the standard, a single cell battery is considered a "cell" and shall be tested according to the testing requirements for "cell".

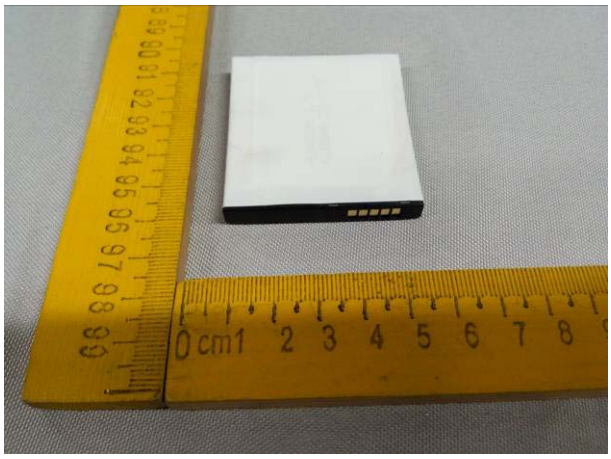
Q2 Power AG 所送的锂离子聚合物电池是单电芯电池。根据标准要求，单电芯电池被视为"电芯"，须根据"电芯"的实验要求进行试验。

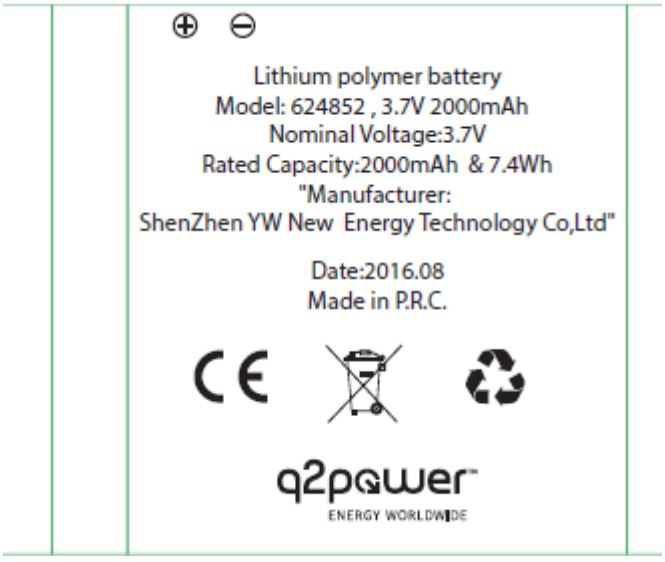
Photos of Samples and Labels/样品照片及标识

Single Cell Battery /单电芯电池 （624852　3,7 V 2000mAh）



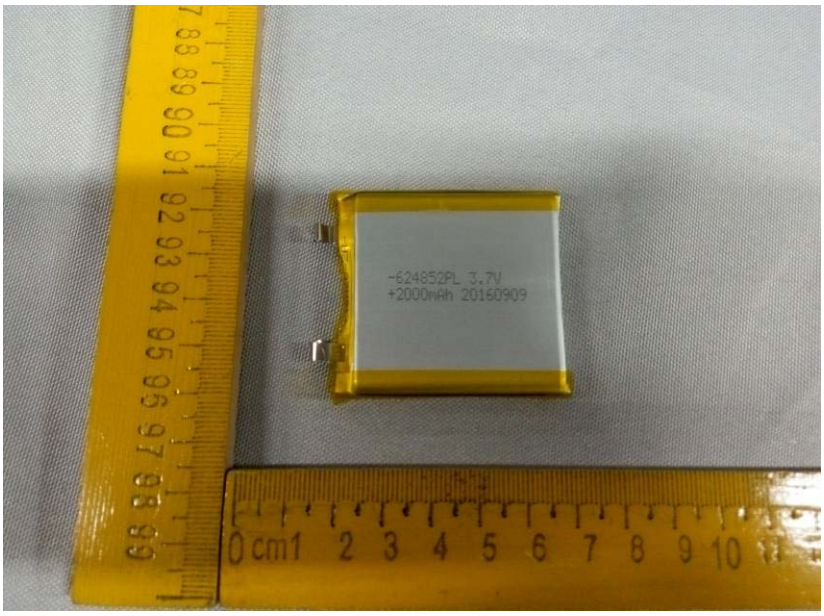


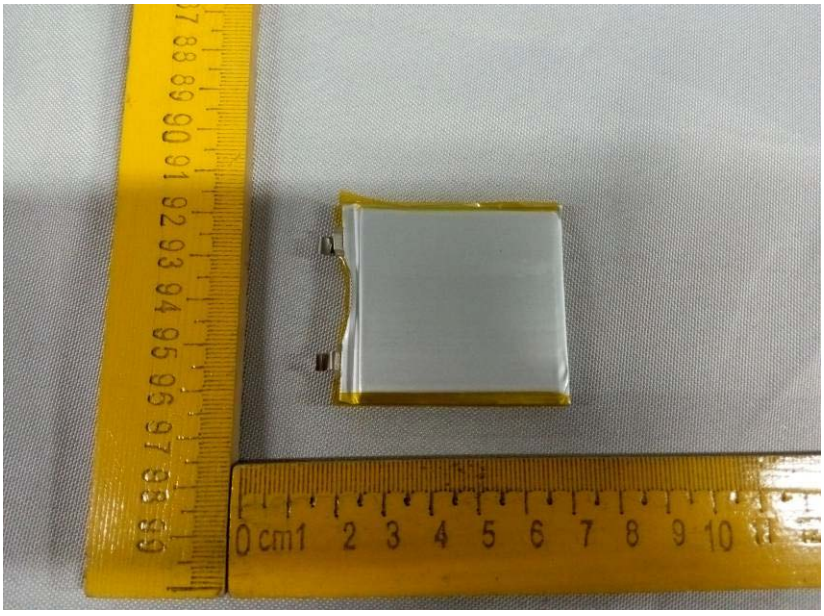




Photos of Samples and Labels/样品照片及标识

Cell/电芯（624852PL 3,7V 2000mAh）





ST/SG/AC.10/11/Rev.6/Section 38.3			
Clause **章节**	**Requirements** **标准要求**	**Result** **测试结果**	**Verdict** **判定**
38.3.4	**Procedure/测试步骤**		—
38.3.4.1	**Test 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℃)/ 将电芯和电池在温度为 20±5℃，大气压力为不大于 11,6kpa 的环境中贮存不少于 6 个小时		
	Requirement/标准要求： 1 Cells and batteries Mass loss limit: ≤0,2% /样品质量损失≤0,2% 2 Open circuit voltage not less than 90%, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90％,此要求不适用于完全放完电的电池和电芯。 3 No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无排气、无解体、无破裂以及无着火现象的发生	The samples c1#~c10# : No leakage, no venting, no disassembly, no rupture and no fire/ 编号为 c1#~c10#的样品：无漏液、无排气、无解体、无破裂以及无着火现象 The data see table1/数据见表 1	
38.3.4.2	**Test 2: Thermal test/测试 2: 热冲击**		**P**
	Test cells and batteries are to be stored for/电池存储条件如下： 1 one temperature cycle: 72±2℃(6h) —-40±2℃(6h) /一次温度循环为 72±2℃(6h) —-40±2℃(6h) 2 The maximum time interval between test temperature extremes is 30 minutes/温度转换最大间隔时间为 30min 3 This procedure is to be repeated 10 times/重复 10 次循环 4 after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20±5℃)/循环结束后，电池在 20±5℃的条件下 搁置 24 小时.		
	Requirements/标准要求 1 Cells and batteries Mass loss limit: ≤0,2% /样品质量损失≤0,2% 2 Open circuit voltage not less than 90%, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90％,此要求不适用于完全放完电的电池和电芯。 3 No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无排气、无解体、无破裂以及无着火现象的发生	The samples c1#~c10# : No leakage, no venting, no disassembly, no rupture and no fire/ 编号为 c1#~c10#的样品：无漏液、无排气、无解体、无破裂以及无着火现象 The data see table1/数据见表 1	

ST/SG/AC.10/11/Rev.6/Section 38.3			
Clause **章节**	**Requirements** **标准要求**	**Result** **测试结果**	**Verdict** **判定**
38.3.4.3	**Test 3: Vibration/测试 3: 振动** 1 Cells and batteries are firmly secured to the platform of the vibration machine /电芯和电池牢固地安装在振动台（的台面）上 2 The vibration :a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes/振动以正弦波形式，以 7Hz 增加至 200Hz，然后在减少回到 7Hz 为一个循环，一个循环持续 15 分钟的对数前移传送。 3 the logarithmic frequency sweep is as follows: from 7 Hz a peak acceleration of 1 gn is maintained until 18 Hz is reached, The amplitude is then maintained at 0,8 mm (1,6 mm total excursion) and the frequency increased until a peak acceleration of 8 gn occurs (approximately 50Hz), A peak acceleration of 8 gn is then maintained until the frequency is increased to 200 Hz/对数扫频为:从 7 赫兹开始保持 1gn 的最大加速度直到频率为 18 赫兹，然后将振幅保持在 0,8 毫米（总偏移 1,6 毫米）并增加频率直到最大加速度达到 8gn（频率约为 50 赫兹），将最大加速度保持在 8gn 直到频率增加到 200 赫兹。 4This cycle 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. /以振动的其中一个方向必须是垂直样品极性，对每个电芯从三个互相垂直的方向上循环 12 次，每个方向 3 个小时，共 9 小时。		**P**
	Requirements/标准要求 1 Cells and batteries Mass loss limit: ≤0,2% /样品质量损失≤0,2% 2 Open circuit voltage not less than 90%, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90％,此要求不适用于完全放完电的电池和电芯。 3 No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无排气、无解体、无破裂以及无着火现象的发生	The samples c1#~c10# : No leakage, no venting, no disassembly, no rupture and no fire/编号为 c1#~c10#的样品：无漏液、无排气、无解体、无破裂以及无着火现象 The data see table1/数据见表 1	

ST/SG/AC.10/11/Rev.6/Section 38.3			
Clause **章节**	**Requirements** **标准要求**	**Result** **测试结果**	**Verdict** **判定**
38.3.4.4	**Test 4: Shock/测试 4: 冲击** 1 Test cells and batteries shall be secured to the testing machine/以稳固的托架固定住每个电芯和电池样品的全部配件表面。 2 shock: a half-sine shock of peak acceleration of 150 g_n (or Acceleration(g_n)= $\sqrt{\left(\frac{100850}{mass}\right)}$, which is smaller) and pulse duration of 6 milliseconds, large cells and large batteries shall be subjected to a half-sine or peak acceleration of 50 g_n (or Acceleration(g_n)= $\sqrt{\left(\frac{30000}{mass}\right)}$, which is smaller) and pulse duration of 11 milliseconds/对每个电芯或电池以峰值为 150g_n（或与 $\sqrt{\left(\frac{100850}{mass}\right)}$ 中的较小值）的半正弦的加速度撞击，脉冲持续 6 毫秒，大型电池和大型电池组须经受最大加速度 50g_n（或与 $\sqrt{\left(\frac{30000}{mass}\right)}$ 中的较小值）和脉冲持续时间 11 毫秒的半正弦波冲击。 3 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安装方位的正方向经受三次冲击，接着在反方向经受三次冲击，总共经受 18 次冲击。		**P**
	Requirements/标准要求： 1 Cells and batteries Mass loss limit: ≤0,2% /样品质量损失≤0,2% 2 Open circuit voltage not less than 90%, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90％,此要求不适用于完全放完电的电池和电芯。 3 No leakage, no venting, no disassembly, no rupture and no fire 样品（电池）应无漏液、无排气、无解体、无破裂以及无着火现象的发生	The samples c1#~c10# : Acceleration=150 gn No leakage, no venting, no disassembly, no rupture and no fire/编号为 c1#~c10#的样品： 峰值加速度=150 gn 无漏液、无排气、无解体、无破裂以及无着火现象 The data see table1/数据见表 1	
38.3.4.5	**Test 5: External Short Circuit/测试 5 :外部短路** 1The cell or battery to be tested shall be temperature stabilized so that its external case temperature reaches 57±4℃/保持试验环境温度稳定在 57±4℃，以使电芯或电池样品外表温度达到 57±4℃ 2 the cell or battery shall be subjected to a short circuit condition with a total external resistance of less than 0,1 ohm at 57±4℃, This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to 57±4℃/将样品正负极用小于 0,1Ω 的总电阻回路进行短路，样品的		**P**

ST/SG/AC.10/11/Rev.6/Section 38.3			
Clause **章节**	**Requirements** **标准要求**	**Result** **测试结果**	**Verdict** **判定**
	外表温度恢复到 57±4℃之后保持短路状态 1 小时以上。 3 the cell or battery must be observed for a further six hour for the test to be concluded, /对电芯或电池必须进一步观察 6 个小时才能下结论。		
	Requirements/标准要求： 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 1. External temperature not exceed 170℃ 外表温度不超过 170℃ 2. No disassembly, no rupture and no fire. 无解体、无破裂和无着火现象发生。	The samples c1#~c10# : no disassembly, no rupture and no fire/编号为 c1#~c10#的样品：无解体、无破裂以及无着火现象 The data see table1/数据见表 1	

ST/SG/AC.10/11/Rev.6/Section 38.3			
Clause **章节**	**Requirements** **标准要求**	**Result** **测试结果**	**Verdict** **判定**
38.3.4.6	**Test 6: Impact / Crush / 测试 6: 撞击/挤压**		**P**
	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）		**N/A**
	1 This test sample cell or component cell is to be placed on a flat smooth surface/ 将试验样品用的电芯或聚合物电芯放在一个平坦光滑的平面上 2 A 15,8 mm diameter bar is to be placed across the center of the sample, A 9,1kg mass is to be dropped from a height of 61±2,5cm onto the sample./将一直径为 15,8mm 的横木横过电池中部放置后，将一质量为 9,1kg 的物体从 61±2,5cm 的高度落向样品。 3 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 ± 0,1mm 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，纵轴应与平坦的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。每一个试样只经受一次撞击。		
	Requirements/标准要求： 1 Cells external temperature not exceed 170℃.电芯或电池的最高表面温度应不超过 170℃ 2 No disassembly, no fire within six hours of this test 试验结束后 6 个小时之内，电芯和聚合物电芯应无解体和无着火现象发生	-	
	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）		**P**
	1 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： (a) The applied force reaches 13 kN ± 0,78 kN. / 施加的力达到 13 千牛±0,78 千牛 (b) The voltage of the cell drops by at least 100 mV,/电池的电压下降至少 100 毫伏 (c) The cell is deformed by 50% or more of its original thickness./电池变形达原始厚度的 50%以上。 2. 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。圆柱形应从与纵轴垂直的方向施压。		
	Requirements/标准要求： 1 Cells external temperature not exceed 170℃.电芯或电池的最高表面温度应不超过 170℃ 2 No disassembly, no fire within six hours of this test 试验结束后 6 个小时之内，电芯和聚合物电芯应无解体和无着火现象发生	The samples c11#~c15#: no disassembly and no fire/ 编号为 c11#~c15#的样品：无解体、无着火现象 The data see table2/数据见表 2	

ST/SG/AC.10/11/Rev.6/Section 38.3			
Clause **章节**	**Requirements** **标准要求**	**Result** **测试结果**	**Verdict** **判定**
38.3.4.7	**Test 7: Overcharge/测试 7: 过充电**		**P**
	1 The charge current shall be twice the manufacturer's recommended maximum continuous charge current/以 2 倍制造厂推荐的最大持续充电电流对样品充电 2 The minimum voltage of the test shall be as follows/本测试最小电压为:		
	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/ 如果厂家推荐的充电电压不超过 18V，本测试的最小充电电压应是厂家标定最大充电电压的两倍或者是 22V 之中的较小者。 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/ 如果厂家推荐的充电电压超过 18V，本测试的最小充电电压应是厂家标定最大充电电压的 1,2 倍。 3 Tests are to be conducted at ambient temperature 20±5℃, The duration of the test shall be 24 hours/20±5℃的环境温度下，试验持续 24 小时。	The voltage of the test is 8,50V, and the current is 2000mA 测试的电压为 8,50V，电流为 2000mA	
	Requirements/标准要求: 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，应无解体和无着火现象发生。	The samples c1#~c4# ,c36#~c39#: For voltage data before test, see table 3. / 试验前电压见表 3 no disassembly, no rupture and no fire/ 编号为 c1#~c4#, c36#~c39#的样品：无解体、无着火现象	
38.3.4.8	**Test 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℃的环境温度下，将单个电芯连接在 12V 的直流电源上进行强制放电，此直流电源提供给每个电芯初始电流为制造厂指定的最大放电电流。		
	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) 指定的放电电流通过串联在测试电芯上的合适大小和功率的负载来获得，每个电芯的强制放电时间（小时）为额定容量除以初始电流（安培）。		
	Requirements/标准要求: 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，应无解体和无着火现象发生。	c16#~c35# For voltage data before test, see table 4. / 试验前电压见表 4 No disassembly and no fire / 无解体、无着火现象	

Table1：T1~T5 / 表 1. 试验 1~试验 5

Sample No. 样品号	**Mass prior to test / 试验前质量 (g)**	**OCV prior to test /试验前电压(V)**	**Test 1: Altitude simulation/ 测试 1：高度模拟**		**Test 2: Thermal test/ 测试 2: 热冲击**		**Test 3: Vibration/ 测试 3: 振动**		**Test 4: Shock/ 测试 4: 冲击**		**Test 5: External Short Circuit/测试 5 外接短路**
			Mass loss(%) 质量损失(%)	Change ratio 电压比(%)	Mass loss(%) 质量损失(%)	Change ratio 电压比(%)	Mass loss(%) 质量损失(%)	Change ratio 电压比(%)	Mass loss(%) 质量损失(%)	Change ratio 电压比(%)	Temp. (℃) 温度 (℃)
c1#	35,516	4,194	0,000	99,98	0,023	99,21	0,000	100,00	0,000	100,00	58,1
c2#	34,132	4,189	0,002	100,00	0,017	99,26	0,000	99,98	0,002	100,00	58,2
c3#	34,451	4,191	0,000	99,98	0,023	99,12	0,002	99,98	0,000	100,00	58,1
c4#	33,768	4,198	0,000	99,98	0,020	99,33	0,000	99,98	0,000	99,98	58,3
c5#	34,266	4,193	0,000	99,98	0,011	99,31	0,000	100,00	0,002	100,00	57,9
c6#	34,478	4,195	0,000	99,95	0,014	99,33	0,000	99,98	0,000	100,00	58,2
c7#	34,507	4,193	0,002	99,98	0,017	99,36	0,000	100,00	0,000	99,98	58,3
c8#	33,832	4,194	0,000	99,98	0,017	99,48	0,000	100,00	0,002	100,00	58,0
c9#	34,518	4,190	0,005	100,00	0,014	99,40	0,002	99,98	0,000	100,00	57,9
c10#	34,458	4,196	0,000	99,98	0,020	99,50	0,000	99,98	0,000	100,00	58,3

Table2: Crush /表 2:挤压						
Test 6: Crush/测试 6:挤压	Sample No. 样品号	c11#	c12#	c13#	c14#	c15#
	OCV prior to test / 试验前电压（V）	3,814	3,814	3,814	3,815	3,814
	Temp. (℃) 温度 (℃)	23,1	23,0	23,2	23,1	23,2

Table3：Overcharge Test of batteries/ 表 3 电池过充试验									
Test 7: Overcharge **/测试 7: 过充电**	Sample No. 样品号	c1#	c2#	c3#	c4#	c36#	c37#	c38#	c39#
	OCV prior to test /试验前电压（V）	4,168	4,171	4,160	4,165	4,186	4,192	4,191	4,193

Table 4：Forced discharge / 表 4. 强制放电											
Test 8: Forced discharge **/ 测试 8: 强制放电**	Sample No. 样品号	c16#	c17#	c18#	c19#	c20#	c21#	c22#	c23#	c24#	c25#
	OCV prior to test / 试验前电压(V)	3,272	3,245	3,260	3,263	3,261	3,262	3,251	3,262	3,261	3,263
	Sample No. 样品号	c26#	c27#	c28#	c29#	c30#	c31#	c32#	c33#	c34#	c35#
	OCV prior to test / 试验前电压(V)	3,270	3,263	3,262	3,263	3,261	3,260	3,262	3,261	3,264	3,260

注 意 事 项
Important

1. 本报告无检测单位印章、骑封章无效。
   The test report is invalid without the official stamp of CVC and Paging seal of CVC.
2. 未经本试验室书面同意，不得部分地复制本报告。
   Nobody is allowed to photocopy or partly photocopy this test report without written permission of CVC.
3. 本报告无批准人、审核人及鉴定人签名无效。
   The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
4. 本报告涂改无效。
   The test report is invalid if altered,
5. 对检测报告若有异议，应于收到报告之日起十五天内向检测单位提出。
   Objections to the test report must be submitted to CVC within 15 days,
6. 本报告仅对送检样品负责。
   The test report is valid for the tested samples only.
7. 判定栏中“-”表示“不需要判定”，“P”表示“通过”，“F”表示“不通过”，“N/A”表示“不适用”。
   As for the Verdict, “-” means “no need for judgement”, “P” means “pass”， “F” means “fail” and “N/A” means “not applicable”.

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http://www.cvc.org.cn

检 查
CNAS IB0011

货物运输条件鉴定报告书

Report for Safe Transport of Goods

No.: UN2016-2905-1

 空运 By Air	锂电池（PI 967 II） Lithium batteries (PI 967 II)

样 品 名 称	**Dock & Charge**（内置锂离子聚合物电池 624852）
Sample Name.....	**Dock & Charge**（**contain Rechargeable Li-ion Battery** 624852）
委 托 单 位	-
Commissioner	**Q2 Power AG**

威凯认证检测有限公司

(广州威凯认证检测有限公司)

Vkan Certification & Testing Co., Ltd.

货物运输条件鉴定报告书

Report for Safe Transport of Goods

样品信息/ Sample information		
样品名称 ..... :	Dock & Charge（内置锂离子聚合物电池 624852）	
Sample name..... :	Dock & Charge（contain Rechargeable Li-ion Battery 624852）	
电池类别/Battery Catagory ..... :	锂离子电芯（包括单电芯电池）/Lithium-ion cells(including single cell batteries)	
电池型号规格/Battery Type..... :	624852 3,7 V 2000mAh 7,4Wh	
电池外观颜色/ Appearance .... :	白色/ white	
委托单位/ Commissioner information		
委托单位 ..... :	-	
Commissioned by ..... :	Q2 Power AG	
生产单位/Manufacturer information		
生产单位: ..... :	-	
Manufacturer ..... :	Q2 Power AG	
包装件信息/Package information		
包装件重量/Package quantity. :	3.5Kg	
电池净重/ Battery net weight .. :	35.5g	
电池个数/ Battery Number..... :	20pcs	
包装件尺寸/Package size ..... :	205X245X350mm	
设备信息/ Equipment info ..... :	名称/name	型号/model
	Dock & Charge	Dock&Charge EURO L,Dock&Charge EURO LB, Dock&Charge EURO LW,Dock&Charge EURO M,Dock&Charge EURO MB, Dock&Charge EURO MW,Dock&Charge EURO C, Dock&Charge EURO CB,Dock&Charge EURO CW
时间信息/ Date		
鉴定日期/ Inspection date.....:	2016-11-01 ~ 2017-03-07	
报告有效期 Period of validity ...:	2017-12-31	

鉴定依据/Inspection refer to

国际航空运输协会《危险品运输规则》第 58 版
IATA Dangerous Goods Regulations 58th Edition

鉴定结论/ Certification

1. 运输名称/Proper Shipping name:

— 安装在设备中的锂离子电池（包括锂离子聚合物电池）/ Lithium ion batteries contained in equipment (Including lithium ion polymer batteries)

2. 危险品识别/ Hazards identification ：

— 无/None

3. 包装满足 IATA 第 58 版 DGR 手册包装说明 967 II 节要求/ Package complies with the requirements of section II of Packing Instruction 967 of 58th DGR Manual of IATA.

— 包装件锂离子电池净重量不超过 5kg。/The net quantity of lithium ion batteries contained in the package does not exceed 5kg.

— 适用于客机和货机运输。/ Apply to Transport of Passenger Aircraft and Cargo Aircraft.

签发日期：
Issue Date:

鉴定单位盖章
(Stamp of CVC)

批准人: 审核人: 鉴定人:

Approved by: _____ Reviewed by: _____ Appraisal by: _____

检查结果及其他事项 Inspection results and other information	
1	本报告所述锂电池已经通过联合国《关于危险品货物运输的建议书》第 38.3 节的相关测试要求。UN38.3 测试报告编号：RZUN2016-2905。 The Lithium cells/batteries listed in the report are of type proven to meet the requirements of each test in the UN Manual of Tests and Criteria Part III subsection 38.3. The UN38.3 test report No. is RZUN2016-2905.
2	本报告所述锂电池按照《危险品规则》（58 版）3.9.2.6（e）规定的质量管理体系进行制造。 本报告所述锂电池不属于因安全原因召回的锂电池。 本报告所述锂电池不属于以回收或处置为目的的航空运输，不属于废弃锂电池。 Lithium cells and batteries listed in this report were manufactured under the quality management programmer as described in IATA DGR 58th 3.9.2.6（e）. Lithium cells and batteries listed in this report are not the defective cells or batteries returned to the manufacturer for safety reasons. Lithium cells and batteries listed in this report are not waste cells or batteries, and they will not be shipped for recycling or disposal.
3	锂电池具有适当的防短路措施。 设备配备有适当的防意外启动的有效装置。 安装有锂电池的设备在外包装内有适当的防移位措施，有适当的打包以免发生误操作。 Cells and batteries are properly protected so as to prevent short circuits. Equipments are properly equipped with an effective means of preventing accidental activation. The equipments are properly secured against movement within the outer packaging and are packed so as to prevent accidental operation.
4	每件托运货物必须附带一份文件说明，包括以下内容： —包装件内装有锂离子电池芯或电池组。 —包装件必须小心轻放，若包装件损坏有着火的危险。 —包装件被损坏必须遵守特定程序，包括检查和必要时重新包装。同时还有 —了解其情况的电话号码 —当使用货运单时，货运单必须有“锂离子电池符合包装说明 967 第 II 节”的字样。 Each consignment must be accompanied with a document with an indication that: —The package contains lithium ion cells or batteries; —The package must be handled with care and that a flammability hazard exists if the package is damaged; —Special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary; and —A telephone number for additional information. —The words “Lithium ion batteries in compliance with section II of PI 967” must be included on the air way-bill, when an air way-bill is used.

备注：

Remarks:

该报告中逗号用以代替小数点。

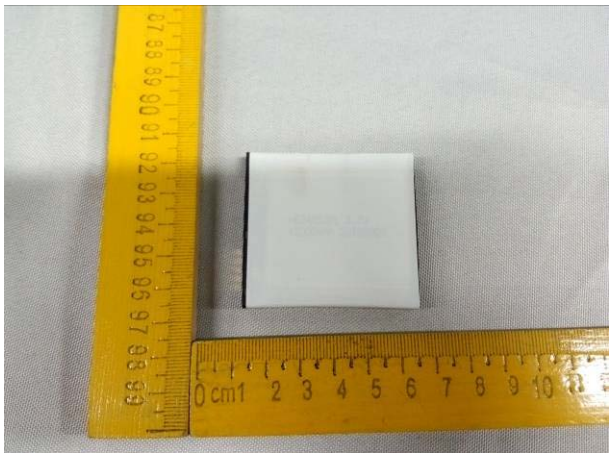
Throughout this report a comma is used as the decimal separator.

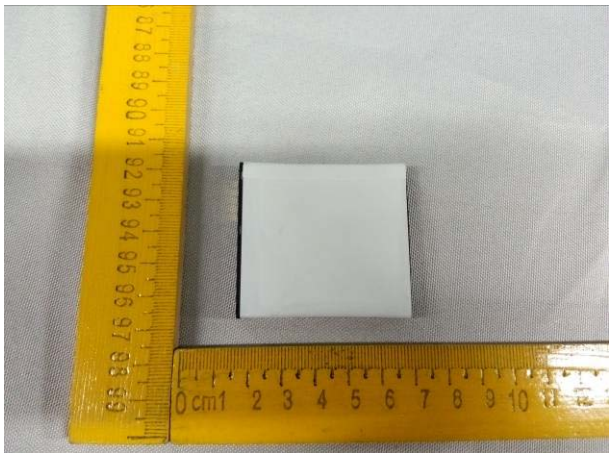
设备型号 Dock&Charge EURO L,Dock&Charge EURO LB, Dock&Charge EURO LW,Dock&Charge EURO M,Dock&Charge EURO MB, Dock&Charge EURO MW,Dock&Charge EURO C, Dock&Charge EURO CB,Dock&Charge EURO CW 属于同一款产品，区别于型号名称不一致。

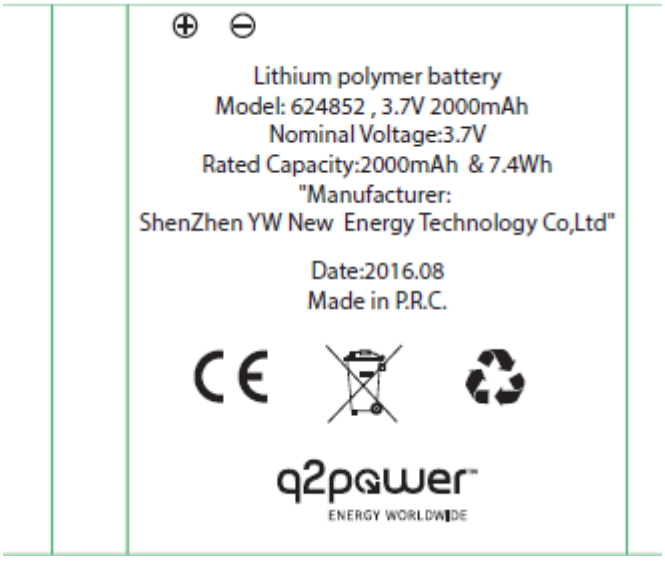
The types of Dock &Charge EURO L,Dock&Charge EURO LB, Dock&Charge EURO LW,Dock&Charge EURO M,Dock&Charge EURO MB, Dock&Charge EURO MW,Dock&Charge EURO C, Dock&Charge EURO CB,Dock&Charge EURO CW，are the same equipments, oily different is the label.

样品照片
Photos of Samples

电池/ Battery(624852　3,7 V 2000mAh 7,4Wh)







包装照片
Photos of Packages

包装箱/ Package

注 意 事 项

Important Notice

1. 本鉴定报告书仅对送检样品有效。
   This report is valid for the tested samples only.
2. 申请人提供的样品须与实际运输货物一致。
   The goods of transporting must be insured conformity with the testing samples.
3. 本鉴定报告书无检验单位印章、骑封章无效。
   This report is invalid without the official stamp of CVC and Paging seal of CVC.
4. 本鉴定报告书无批准人、审核人及鉴定人签名无效。
   This report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
5. 本鉴定报告书涂改无效。
   This report is invalid if altered.
6. 判定栏中“N/A”表示“不适用”，“P”表示“通过”，“F”表示“不通过”，“-”表示“无需判定”。
   As for the Verdict, “N/A” means “not applicable”, “P” means “pass”, “F” means “fail” and “-” means ”no need for judgement”.
7. 本鉴定报告仅原件有效，复印件、传真件及电子版均无效。
   The original copy of this report is the only valid version. Any other versions of this report, whatever it is in the form of photocopy, fax, or electronic media, or others, are considered to be invalid.
8. 本鉴定报告书可以在网站http://www.cvc.org.cn上核实。
   This report can be verified from the website: http://www.cvc.org.cn.

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邮政编码(Post Code)：510663
E-mail: office@cvc.org.cn
http://www.cvc.org.cn

检 查
CNAS IB0011

货物运输条件鉴定报告书

Report for Safe Transport of Goods

No.: UN2016-2905-2

 海运 By Sea	锂电池（SP 188） Lithium batteries (SP 188)

样 品 名 称	**Dock & Charge**（内置锂离子聚合物电池 624852）
Sample Name.....	**Dock & Charge**（**contain Rechargeable Li-ion Battery** 624852）
委 托 单 位	-
Commissioner	**Q2 Power AG**

威凯认证检测有限公司

(广州威凯认证检测有限公司)

Vkan Certification & Testing Co., Ltd.

货物运输条件鉴定报告书

Report for Safe Transport of Goods

样品信息/ Sample information		
样品名称 ..... :	Dock & Charge（内置锂离子聚合物电池 624852）	
Sample name..... :	Dock & Charge（contain Rechargeable Li-ion Battery 624852）	
电池类别/Battery Catagory ..... :	锂离子电芯（包括单电芯电池）/Lithium-ion cells(including single cell batteries)	
电池型号规格/Battery Type..... :	624852 3,7 V 2000mAh 7,4Wh	
电池外观颜色/ Appearance .... :	白色/ white	
委托单位/ Commissioner information		
委托单位 ..... :	-	
Commissioned by ..... :	Q2 Power AG	
生产单位/Manufacturer information		
生产单位: ..... :	-	
Manufacturer ..... :	Q2 Power AG	
包装件信息/Package information		
包装件重量/Package quantity. :	3.5Kg	
电池净重/ Battery net weight .. :	35.5g	
电池个数/ Battery Number..... :	20pcs	
包装件尺寸/Package size ..... :	205X245X350mm	
设备信息/ Equipment info ..... :	名称/name	型号/model
	Dock & Charge	Dock&Charge EURO L,Dock&Charge EURO LB, Dock&Charge EURO LW,Dock&Charge EURO M,Dock&Charge EURO MB, Dock&Charge EURO MW,Dock&Charge EURO C, Dock&Charge EURO CB,Dock&Charge EURO CW
时间信息/ Date		
鉴定日期/ Inspection date.....:	2016-11-01 ~ 2017-03-07	
报告有效期 Period of validity ...:	2017-12-31	

鉴定依据/Inspection refer to

国际海运危险货物运输规则
IMDG CODE（Amdt. 37-14）2014 Edition

鉴定结论/ Certification

1. 运输名称/Proper Shipping name:

— 安装在设备中的锂离子电池（包括锂离子聚合物电池）/ Lithium ion batteries contained in equipment (Including lithium ion polymer batteries)

2. 危险品识别/ Hazards identification ：

— 无/None

3. 包装符合 IMDG CODE（Amdt. 37-14）2014 版特殊规定 188 的要求/ Package complies with the special provision 188 of IMDG CODE（Amdt. 37-14）2014 Edition.

签发日期：
Issue Date:

鉴定单位盖章
(Stamp of CVC)

批准人: 审核人: 鉴定人:

Approved by: _____ Reviewed by: _____ Appraisal by: _____

检查结果及其他事项 Inspection results and other information	
1	本报告所述锂电池已经通过联合国《关于危险品货物运输的建议书》第 38.3 节的相关测试要求。UN38.3 测试报告编号：RZUN2016-2905。 The Lithium cells/batteries listed in the report are of type proven to meet the requirements of each test in the UN Manual of Tests and Criteria Part III subsection 38.3. The UN38.3 test report No. is RZUN2016-2905.
2	本报告所述锂电池按照《国际海运危险货物运输规则》（37-14 版）2.9.4（5）规定的质量管理体系进行制造。 Lithium cells and batteries listed in this report were manufactured under the quality management programmer as described in IMDG CODE（Amdt. 37-14）2014 Edition 2.9.4（5）.
3	锂电池具有适当的防短路措施。 设备配备有适当的防意外启动的有效装置。 Cells and batteries are properly protected so as to prevent short circuits. Equipments are properly equipped with an effective means of preventing accidental activation.
4	每件托运货物必须附带一份文件说明，包括以下内容： —包装件内装有锂离子电池芯或电池组。 —包装件必须小心轻放，若包装件损坏有着火的危险。 —包装件被损坏必须遵守特定程序，包括检查和必要时重新包装。同时还有 —了解其情况的电话号码 Each consignment must be accompanied with a document with an indication that: —The package contains lithium ion cells or batteries; —The package must be handled with care and that a flammability hazard exists if the package is damaged; —Special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary; and —A telephone number for additional information.

备注：

Remarks:

该报告中逗号用以代替小数点。

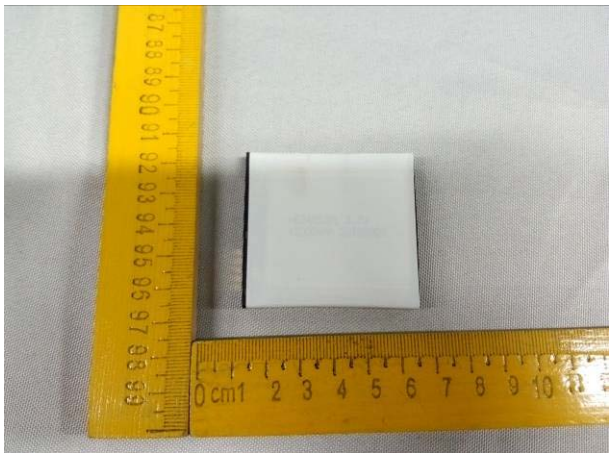
Throughout this report a comma is used as the decimal separator.

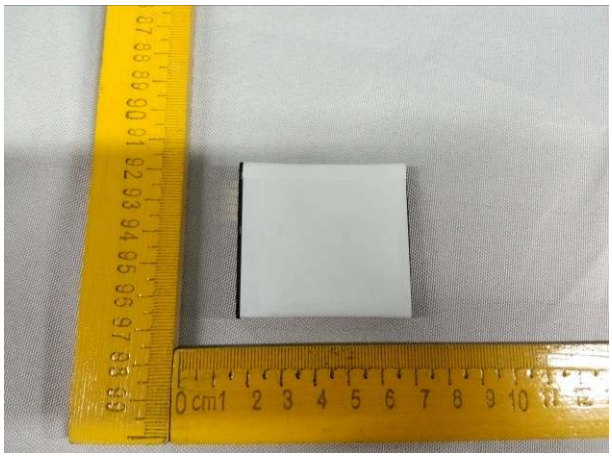
设备型号Dock&Charge EURO L,Dock&Charge EURO LB, Dock&Charge EURO LW,Dock&Charge EURO M,Dock&Charge EURO MB, Dock&Charge EURO MW,Dock&Charge EURO C, Dock&Charge EURO CB,Dock&Charge EURO CW 属于同一款产品，区别于型号名称不一致。

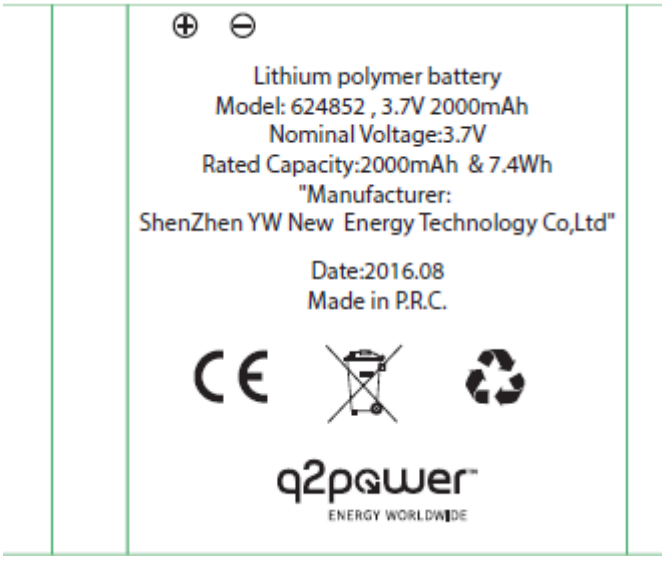
The types of Dock &Charge EURO L,Dock&Charge EURO LB, Dock&Charge EURO LW,Dock&Charge EURO M,Dock&Charge EURO MB, Dock&Charge EURO MW,Dock&Charge EURO C, Dock&Charge EURO CB,Dock&Charge EURO CW，are the same equipments, oily different is the label.

样品照片
Photos of Samples

电池/ Battery(624852　3,7 V 2000mAh 7,4Wh)







包装照片
Photos of Packages

包装箱/ Package

注 意 事 项

Important Notice

1. 本鉴定报告书仅对送检样品有效。
   This report is valid for the tested samples only.
2. 申请人提供的样品须与实际运输货物一致。
   The goods of transporting must be insured conformity with the testing samples.
3. 本鉴定报告书无检验单位印章、骑封章无效。
   This report is invalid without the official stamp of CVC and Paging seal of CVC.
4. 本鉴定报告书无批准人、审核人及鉴定人签名无效。
   This report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
5. 本鉴定报告书涂改无效。
   This report is invalid if altered.
6. 判定栏中“N/A”表示“不适用”，“P”表示“通过”，“F”表示“不通过”，“-”表示“无需判定”。
   As for the Verdict, “N/A” means “not applicable”, “P” means “pass”, “F” means “fail” and “-” means ”no need for judgement”.
7. 本鉴定报告仅原件有效，复印件、传真件及电子版均无效。
   The original copy of this report is the only valid version. Any other versions of this report, whatever it is in the form of photocopy, fax, or electronic media, or others, are considered to be invalid.
8. 本鉴定报告书可以在网站http://www.cvc.org.cn上核实。
   This report can be verified from the website: http://www.cvc.org.cn.

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http://www.cvc.org.cn

Test Report

COMMISSION REGULATION (EU) No 1103/2010

establishing, pursuant to Directive 2006/66/EC of the European Parliament and of the Council, rules as regards capacity labelling of portable secondary (rechargeable) and automotive batteries and accumulators

Report Reference No. ..... :	4331965.50	
Tested by (name + signature) ..... :	Alger Yang	.....
Reviewed by (name + signature) ... :	Among Chen	.....
Date of issue..... :	2017-09-03	
Contents ..... :	11 pages	
Testing Laboratory..... :	DEKRA Testing and Certification China Ltd., Guangzhou Branch	
Testing location / address..... :	Building A3, No.3 Qiyun Road, Science City, Guangzhou Hi-tech Industrial Development Zone, Guangzhou 510663, P.R. China	
Applicant ..... :	Q2POWER AG	
Address ..... :	Industriering 31, 9491 Ruggell, Liechtenstein	
Test specification:		
Standard(s) ..... :	IEC 61960: 2011	
	EN 61960: 2011	
Test procedure ..... :	COMMISSION REGULATION (EU) No 1103/2010 of 29 November 2010	
	Establishing, pursuant to Directive 2006/66/EC of the European Parliament and of the Council, rules as regards capacity labelling of portable secondary (rechargeable) and automotive batteries and accumulators	
Test object description :	Rechargeable Lithium polymer battery	
Trade Mark ..... :	Q2POWER AG	
Manufacturer ..... :	ShenZhen YW New Energy Technology Co., Ltd.	
	No.817, Rongtai Building, Longhua district, Shenzhen, Guangdong, China	
Factory ..... :	Dongguan Liaobu Shensen electronic Ltd.	
	Si Hai Industry, Kengkou, Liaobu, Dongguan, Guangdong, China	
Model/Type reference..... :	624852PA	
Ratings..... :	3,7 Vdc, 2000 mAh, 7,4 Wh	

Possible test case verdicts:		
- test case does not apply to the test object	:	N/A (not applicable)
- test object does meet the requirement	:	P (Pass)
- test object does not meet the requirement	:	F (Fail)
Test program.....	:	The test object has been submitted to a test program as mentioned on the next pages.

The test results shown in this report relate only to the tests performed according to the test program. The test object has not been submitted to a full test program.

Test item particulars:	
Use of batteries and accumulators:	
- Portable secondary (rechargeable) batteries and accumulators……:	☒
- Automotive batteries and accumulators……:	☐
Chemical system of secondary batteries and accumulators:	
- Portable secondary nickel-cadmium batteries and accumulators……:	☐
- Portable secondary nickel-metal hydride batteries and accumulators……:	☐
- Portable secondary lithium batteries and accumulators……:	☒
- Portable secondary lead-acid batteries and accumulators……:	☐
Attachment: Attachment 1: Photos of battery (1 page)	

Copy of marking plate: (representative)

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

General remarks:

Throughout this report a comma is used as the decimal separator.

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 testing laboratory.

General product information:

Rechargeable Lithium Ion Battery Pack, (cell model ICS 624852, 3,7 Vdc, 2000 mAh) including a single cell and protective circuit.

Product	Rechargeable Lithium polymer battery
Model number	624852PA
Nominal voltage	3,7 V
Rated capacity	2000 mAh
Charge method	CC / CV (Constant Current / Constant Voltage)
Standard charge current	400 mAh
Max. charging current	1000 mAh
Max. charging voltage	4,2 V
End of discharge voltage	2,75 V