



1.2m Drop Test

Report No.: CESUN210604013-DT

# 检测报告

## TEST REPORT

Name of Sample: Package for LiFePO<sub>4</sub> Start Battery  
产品名称 : 磷酸铁锂启动电池的包装件

Model Specification:

产品型号 : MC14

Client: RAY-TECH INTERNATIONAL LIMITED

委托单位 : 深圳市锐创新科技有限公司

Classification of Test: Commission Test

委托类别 : 委托测试

先进储能材料国家工程研究中心有限责任公司检测中心

Test Center of National Engineering Research Center of Advanced Energy Storage Materials Co., Ltd.



# 说 明

## Marking

1. 报告无“报告专用章”无效。

The test report is invalid without “Special seal for report”.

2. 报告无批准人、审核人和主检人签名无效。

The test report is invalid without the signatures of Approver, Reviewer and Testing engineer.

3. 报告涂改无效。

The test report is invalid if altered.

4. 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 Test Center within 15 days.

5. 报告仅对送检样品负责。

The test report is Valid for the tested samples only.

6. 本报告检测结论中“N/A”表示“不适用”，“P”表示“符合标准要求”，“F”表示“不符合标准要求”。

As for test result, "N/A" means is “not applicable”, “P” means “pass”, “F” means “fail”.

7. 未经实验室书面批准，不得部分复制本报告书。

The partial replica of this report is prohibited without the written approval of CES.

检测单位地址：广东省深圳市宝安区新安街道宝石路29号蓝坤集团大厦B栋一楼B102

Lab Address: No.B102, 1/F., Lankun Group Building B, No.29, Baoshi Road, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China

电话(TEL): 86-755-22678310

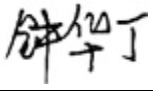
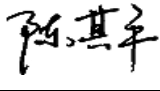
传真(FAX): 0755-22678299

邮政编码(Post Code): 518101

网址(Website): [www.cescert.com](http://www.cescert.com)

E-mail: [service@cescert.com](mailto:service@cescert.com)

# TEST REPORT

Name of sample 样品名称	Package for LiFePO4 Start Battery 磷酸铁锂启动电池的包装件		
Model /Type 型号规格	MC14 (12.8V 5Ah 64Wh)	Size of battery 电池尺寸	132.0mm×104.0mm×68.0mm (L×W×H)
Quantity 样品数量	1 packages 1 个包装件	Sampled identification: 样品标识序号	p1#
Receiving Date 接样日期	2021-06-28	Testing Date 测试日期	2021-06-28
Client 委托单位	Name 名称	RAY-TECH INTERNATIONAL LIMITED 深圳市锐创新科技有限公司	
	Address 地址	423,Overseas Students (LongGang) Pioneer Park, TengFei Road, Longgang, Shenzhen, China 深圳市龙岗区腾飞路留学人员创业园 423	
Manufacturer 生产单位	Name 名称	RAY-TECH INTERNATIONAL LIMITED 深圳市锐创新科技有限公司	
	Address 地址	423,Overseas Students (LongGang) Pioneer Park, TengFei Road, Longgang, Shenzhen, China 深圳市龙岗区腾飞路留学人员创业园 423	
	Tel. 电话	13714441432	E-mail 邮箱 Sales@raytechintl.com
	Website 网址	--	
Tested standard 测试标准	21st Revised Edition of the "Recommendations on the Transport of Dangerous Goods, Model Regulations" (ST/SG/AC.10/1/Rev.21) 《关于危险品货物运输的建议书 规章范本》第21修订版		
Test conclusion: 检测结论	The sample has passed the 1.2m drop test of UNITED NATIONS "Recommendations on the Transport of Dangerous Goods, Model Regulations" ST/SG/AC.10/1/Rev.21(Vol.I)/Chapter 3.3/ Special provision 188 经测试, 该批样品的 1.2m 跌落试验符合联合国《关于危险品货物运输的建议书 规章范本》ST/SG/AC.10/1/Rev.21(Vol.I)3.3 章第 188 条款标准要求		
Issue date 签发日期	2020-07-20		
Tested by 主检		Reviewed by 审核	 Approved by 批准
陈其平 Cherry Chen:..... 技术负责人 Technical Manager 廖宇平 Richie Liao:..... 中心副主任 Deputy Centre Director			



# TEST REPORT

The info of package 包装件信息	
Package No. 包装件编号	p1#
Package quantity 包装件重量	9.3Kg
Battery netweight 电池净重	6.68Kg
Battery Number 电池个数	8Pcs
Package size 包装件尺寸	490mm×345mm×165mm (L×W×H)
Type of transport 包装件运输方式	<input checked="" type="checkbox"/> Li-ion Battery transport singly/ 锂离子电池单独运输 <input type="checkbox"/> Li-ion Battery Packed with equipment/ 锂离子电池与设备包装在一起
the material of outer packaging 外包装材料	
<input checked="" type="checkbox"/> Corrugated carton 硬板纸箱 <input type="checkbox"/> wood carton 木板箱 <input type="checkbox"/> other 其他	
the manner of inner packaging that can be completely enclose the samples 能完全装入样品的内包装方式	
<input type="checkbox"/> Foam material 泡沫材料 <input type="checkbox"/> Plastic disc 吸塑盘 <input type="checkbox"/> Paper divider 纸板隔板 <input type="checkbox"/> Plastic bubble and pearl cotton 塑料气泡与珍珠棉 <input checked="" type="checkbox"/> Single sealing plastic bags 单一封口塑料袋 <input type="checkbox"/> Plastic aircushion 塑料气垫 <input checked="" type="checkbox"/> Independent packaging 独立小包装 <input type="checkbox"/> other 其他:	
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:	
/	

Photos of Samples and Labels/样品照片及标识

Samples /样品 (MC14 12.8V 5Ah 64Wh)



Photos of Samples and Labels/样品照片及标识

包装箱/Package



Clause 章节	Requirements 标准要求	Result 测试结果	Verdict 判定				
6.1.5.3	1.2m Drop test / 1.2 米跌落试验		P				
	Test procedure /测试步骤		-				
	<p><b>Drop orientation/跌落方向:</b> Where more than one orientation is possible for a given drop, the orientation most likely to result in failure of the packing must be used. /如再一次跌落试验中可能有一种以上的方向, 须选择最易使包装损坏的方向。 Drop orientation for a package which are in the shape of a box. /箱状包装的跌落方向: First drop: flat on the bottom /第一次: 以箱底平跌 Second drop: flat on the top /第二次: 以箱顶平跌 Third drop: flat on the long side / 第三次: 以一长侧面平跌 Fourth drop: flat on the short side / 第四次: 以一短侧面平跌 Fifth drop: on a corner /第五次: 以一个角跌落</p>	<p>The package is in the shape of a box. The package is subjected to five drops in different orientation. 此包装为箱状, 并经受五个方向的跌落。</p>	-				
	<p><b>Drop Target / 跌落目标:</b> The target must be a non-resilient horizontal surface and must be 跌落目标应为坚硬、无弹性的水平表面且应: a) integral and massive enough to be immovable / 足够完整、厚重以固定不动; b) flat with a surface kept free from local defects capable of influencing the test results / 表面平坦, 无影响试验结果的局部缺陷; c) rigid enough to be non-deformable under test conditions and not liable to become damaged by the tests / 具有足够的刚性, 在试验条件下不会变形且不会被试验所损坏; d) sufficiently large to ensure that the test package falls entirely upon the surface / 具有足够大的规格以便试验包装完成落在表面上。</p>	<p>The drop target is a concrete floor. 跌落目标为水泥地面。</p>	-				
3.3.1	Requirements/要求		P				
special provision 188(g)	<p>Each package is capable of withstanding a 1.2m drop test in any orientation without damage to cells or batteries contained therein, without shifting of the contents so as to allow battery to battery (or cell to cell) contact and without release of contents. 每个包件须能承受任何方向 1.2m 的跌试验而容器内物品没有破损, 没有造成内容物移位, 没有出现内装物从内贮器或内容器中漏出。</p>	<table border="1"> <tr> <td data-bbox="857 1485 1043 1563">Sample No. 样品号</td> <td data-bbox="1043 1485 1324 1563">p1#</td> </tr> <tr> <td data-bbox="857 1563 1043 1859">Status 跌落状态</td> <td data-bbox="1043 1563 1324 1859">No damage to cells; No cell to cell contact; No release of contents from the package. 电池无损坏; 无电池与电池接触; 无内容物从包装漏出。</td> </tr> </table>	Sample No. 样品号	p1#	Status 跌落状态	No damage to cells; No cell to cell contact; No release of contents from the package. 电池无损坏; 无电池与电池接触; 无内容物从包装漏出。	P
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