



U.S. Department of Transportation  
**Pipeline and Hazardous Materials**  
**Safety Administration**

1200 New Jersey Avenue, SE  
Washington, DC 20590

MAR 11 2015

Mr. Ken Eldridge  
Warehouse Manager  
Maxxsonics  
1290 Ensell Road  
Lake Zurich, IL 60047

Reference No. 14-0218

Dear Mr. Eldridge:

This is in response to your November 12, 2014 e-mail requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the shipment of small lithium ion batteries contained in equipment, UN 3481. You present that you will be shipping a new product containing a 2 cell, 7.4 volt lithium ion battery with a 1,100 mAh rating. You note that batteries meet the criteria in Part III, sub-section 38.3 of the UN Manual of Tests and Criteria. Finally, you indicate that each piece of equipment containing the battery is individually packaged in a blister pack with a rigid outer fiberboard packaging. You ask for confirmation of what specific HMR provisions are waived for these lithium ion batteries as packaged.

In a final rule published on August 6, 2014 (79 FR 46011; HM-224F), § 173.185 relating to lithium cells and batteries was revised. In the final rule special provision 188 was eliminated and incorporated into § 173.185. In addition, the term Watt-hour (Wh) was adopted in place of "equivalent lithium content" for lithium ion batteries. As described, the lithium ion battery contained in the equipment equates to 8.14 Wh for the battery and 4.07 Wh for each cell.

Based on the information you have provided, the lithium ion cells and battery meets the size limitation (less than 20 Wh for a cell and less than 100 Wh for a battery) to be eligible for the exceptions for smaller cells and batteries provided by § 173.185(c), therefore, provided the battery, equipment, and package meets all other applicable requirements of § 173.185 the batteries as packaged are not subject to the following provisions of the HMR:

Subpart C of Part 172, Shipping Papers;  
Subpart D of Part 172, Marking;  
Subpart E of Part 172, Labeling;  
Subpart F of part 172, Placarding;  
Subpart G of part 172, Emergency Response Information;

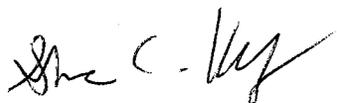
Subpart H of part 172, Training; and  
The UN performance packaging requirements of §§ 173.185(b)(3)(ii) and 173.185(b)(4).

The provisions of subpart I of part 172, Safety and Security Plans, do not apply to lithium batteries.

In addition, since each package contains less than four lithium cells and two lithium batteries installed in equipment the requirements for additional hazard communication (§ 173.185(c)(3)) and the lithium battery handling mark (§ 173.185(c)(4)(i)) also do not apply.

I trust this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "Shane C. Kelley". The signature is written in a cursive style with a large initial "S" and "K".

Shane C. Kelley  
Acting International Standards Coordinator  
Standards and Rulemaking Division

Babich  
§173.185  
Batteries  
14-0218

**Dodd, Alice (PHMSA)**

---

**From:** Ciccarone, Michael CTR (PHMSA)  
**Sent:** Wednesday, November 12, 2014 3:39 PM  
**To:** Hazmat Interps  
**Subject:** FW: Small Lithium Ion Battery  
**Attachments:** UN38 3 of QUBFour battery.pdf

Shante/Alice.

Please submit this for a formal letter of interpretation. I spoke with Mr. Eldridge.

Thanks;

Mike

---

**From:** Ken Eldridge [mailto:kene@maxxsonics.com]  
**Sent:** Wednesday, November 12, 2014 12:39 PM  
**To:** INFOCNTR (PHMSA)  
**Cc:** Marc Sullivan  
**Subject:** Small Lithium Ion Battery

8.14 watts

To Whom It May Concern:

I have questions regarding a new product we will be shipping which contains Li Ion batteries. Based on what we can determine these are classified as small Li Ion batteries contained in equipment, aka UN3481. The largest battery contained in equipment is a 2 cell 7.4 volt with 1100 mAh capability. Based on the ELC formula this would represent 0.66 grams of lithium for our largest battery contained in equipment with a total battery weight of 39.5 grams. Each unit is individually packaged with the battery enclosed in a non conductive rigid plastic product which is inside a blister pack with outer rigid fiberboard packaging. For shipping purposes the package unit would be 2 cells, one battery, with an ELC of 0.66 grams. Our batteries have passed the UN38.3 testing – see attached.

In accordance with the SP 188 of 49 CFR 172 and/or 49 CFR 173.185

((c) *Exceptions for smaller cells or batteries.* A package containing lithium cells or batteries, or lithium cells or batteries packed with, or contained in, equipment, that meets the conditions of this paragraph, is excepted from the requirements in subparts C through H of part 172 of this subchapter and the UN performance packaging requirements in paragraphs (b)(3)(ii) and (b)(4) of this section under the following conditions and limitations.)

My questions:

Are we exempted from the following?

- 172.200 Shipper declaration for dangerous goods.
- 172.300 Marking of package with proper shipping name
- 172.400 Li Ion labeling on shipments (see below for example)



- 172.500 Placarding
- 172.600 Emergency Response Information
- 172.700 Dangerous good training.
- 172.800 Safety and Security Plans

Thanks,

Ken

Ken Eldridge  
Warehouse Manager

Phone: (847)540-7700  
Fax: (847)540-9776

1290 Ensell Road  
Lakes Zurich, IL 60047  
www.maxxsonics.com

 **MAXXSONICS**

MBOLA318<sup>®</sup> HIFONICS<sup>®</sup> CRUNCH<sup>®</sup> AUTOTEK<sup>®</sup>  **MAXXLINK<sup>™</sup>**

## CONFIDENTIALITY NOTICE:

This Material is intended for the named recipient and, unless otherwise expressly indicated, is confidential and privileged information. Any dissemination, distribution or copying of this material is prohibited. If you received this message in error, please notify the sender by replying to this message and then delete it from your system. Your cooperation is appreciated.



检测  
CNAS L0748



NO.1114090023

# 检 验 报 告

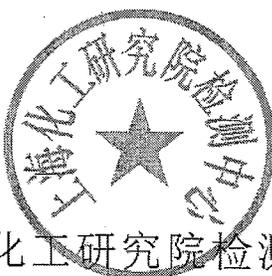
## Test Report

样品名称： 聚合物锂离子电池 EDC01040401/CEL153048 7.4V 8.14Wh

Name of Sample: Lithium-ion polymer battery EDC01040401/CEL153048  
7.4V 8.14Wh

委托单位： 宁波波英电子有限公司

Consignor: /



上海化工研究院检测中心

Shanghai Research Institute of Chemical Industry Testing Centre

上海化工研究院检测中心  
检验报告

SRICI Testing Centre Test Report

NO. 1114090023

1/11

样品名称 Name of Sample	中文 Chinese	聚合物锂离子电池 EDC01040401/CEL153048 7.4V 8.14Wh	
	英文 English	Lithium-ion polymer battery EDC01040401/CEL153048 7.4V 8.14Wh	
样品编号 Sample No.	1114090023		
委托单位 Consignor	宁波波英电子有限公司		
生产单位 Manufacturer	东莞市金赛尔电池科技有限公司 DONGGUAN GOLDEN CEL BATTERY CO., LTD		
检验方法 Test method	联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC. 10/11/Rev. 5/Amend. 1&Amend. 2 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC. 10/11/Rev. 5/Amend. 1&Amend. 2 38.3		
判定标准 Criterion	联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC. 10/11/Rev. 5/Amend. 1&Amend. 2 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC. 10/11/Rev. 5/Amend. 1&Amend. 2 38.3		
样品外观 Appearance	蓝色塑料薄膜外壳 Blue Plastic film shell		
样品接受日期 Accepted Date	2014-09-02	检测起始日期 Test Date	2014-09-09 ~ 2014-09-30
检测项目 Test Items	高度模拟;热测试;振动;冲击;外短路;挤压;过充电;强制放电 Altitude simulation, Thermal test, Vibration, Shock, External short circuit, Crush, Overcharge, Forced discharge		
检验结论 Conclusion	经检验, 该样品符合联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC. 10/11/Rev. 5/Amend. 1&Amend. 2 38.3标准要求。 The sample has passed the test items of UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC. 10/11/Rev. 5/Amend. 1&Amend. 2 38.3.		
备注 Comment	可充电锂电池组 Rechargeable Lithium Battery. 生效日期 (Date): 2014-09-30		
委托单位地址 Consignor Address			邮政编码 Post Code 315500

批准  
Approver:  
职务  
Title:

张一凡  
审核  
Checker:  
许莹  
副总工程师 (Vice chief engineer)

编制  
Compiler:

周敏

上海化工研究院检测中心  
检验报告

SRICI Testing Centre Test Report

NO. 1114090023

2/11

序号 No.	检验项目名称 Name of Test Items	标准要求或标准条款号 Standard requirement or The Clause Number of Standard	检测结果 Test Result	本项结论 Conclusion	备注 Remark	
1	高度模拟 Altitude simulation	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1 38.3 试验 T.1 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1 38.3 Test T.1	见附表 1 See Appendix 1	合格 Passed	/	
2	热测试 Thermal test	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1 38.3 试验 T.2 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1 38.3 Test T.2	见附表 2 See Appendix 2	合格 Passed	/	
3	振动 Vibration	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1 38.3 试验 T.3 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1 38.3 Test T.3	见附表 3 See Appendix 3	合格 Passed	/	
4	冲击 Shock	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1 38.3 试验 T.4 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1 38.3 Test T.4	见附表 4 See Appendix 4	合格 Passed	/	
5	外短路 External short circuit	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1 38.3 试验 T.5 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1 38.3 Test T.5	见附表 5 See Appendix 5	合格 Passed	/	
6	挤压 Crush	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1&Amend.2 38.3 试验 T.6 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1&Amend.2 38.3 Test T.6	见附表 6 See Appendix 6	合格 Passed	/	
7	过充电 Overcharge	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1 38.3 试验 T.7 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1 38.3 Test T.7	见附表 7 See Appendix 7	合格 Passed	/	
8	强制放电 Forced discharge	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.5/Amend.1 38.3 试验 T.8 UN Manual of Tests and Criteria Section ST/SG/AC.10/11/Rev.5/Amend.1 38.3 Test T.8	见附表 8 See Appendix 8	合格 Passed	/	
检验环境条件 Test Environment Condition		环境温度:23℃;环境湿度:/% Ambient temperature:23℃, Ambient humidity:/%				
分包检验情况 Subcontracted Test Condition		检验项目 Test Item				
		分包实验室 Subcontracted Laboratory	名称 Name	/	邮编 Post Code	/
			地址 Address	/	电话 Tel	/