



Test Report issued under the responsibility of:



<b>TEST REPORT</b> <b>IEC 62619</b> <b>Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications</b>	
Report Number.....:	BL-DG21B0724-301
Date of issue.....:	2021-12-30
Total number of pages.....:	23
Name of Testing Laboratory preparing the Report.....:	Dongguan BALUN Testing Technology Co., Ltd.
Applicant's name.....:	Zhongrui Green Energy Technology (Shenzhen) Co., Ltd.
Address.....:	Room 2304-2 Block B, Zhihuijiayuan 76 Baohe Avenue Baolong Street Shenzhen, Guangdong 518116 China
<b>Test specification:</b> Standard..... : IEC 62619: 2017 Test procedure..... : CB Scheme Non-standard test method..... : N/A	
Test Report Form No.....:	IE62619A
Test Report Form(s) Originator.....:	UL(Demko)
Master TRF.....:	Dated 2017-11-16
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<b>Test item description</b> ..... :	Secondary Lithium-ion Battery	
<b>Trade Mark</b> ..... :	ZRGF	
<b>Manufacturer</b> ..... :	Same as applicant.	
<b>Model/Type reference</b> ..... :	ZR-PBX1	
<b>Ratings</b> ..... :	51.2V, 100Ah, 5120Wh	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	Dongguan BALUN Testing Technology Co., Ltd.
<b>Testing location/ address</b> ..... :	No. 6 Industrial South Road, Songshan Lake District, Dongguan, Guangdong, China	
<b>Tested by (name, function, signature)</b> ..... :	Van Xu (Engineer)	<i>Van Xu</i>
<b>Approved by (name, function, signature)</b> ... :	Simon Qi (Reviewer)	<i>Simon Qi</i>
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name, function, signature)</b> ..... :		
<b>Approved by (name, function, signature)</b> ... :		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name + signature)</b> ..... :		
<b>Witnessed by (name, function, signature)</b> .. :		
<b>Approved by (name, function, signature)</b> ... :		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name, function, signature)</b> ..... :		
<b>Witnessed by (name, function, signature)</b> .. :		
<b>Approved by (name, function, signature)</b> ... :		
<b>Supervised by (name, function, signature)</b> :		

**List of Attachments (including a total number of pages in each attachment):**

See to ANNEX 1: PHOTOS

**Summary of testing:****Tests performed (name of test and test clause):**

- cl. 7.2.1 External short circuit test (cell or cell block)
- cl. 7.2.2 Impact test (cell or cell block)
- cl. 7.2.3 Drop test (cell or cell block, and battery system)
- cl. 7.2.4 Thermal abuse test (cell or cell block)
- cl. 7.2.5 Overcharge test (cell or cell block)
- cl. 7.2.6 Forced discharge test (cell or cell block)
- cl. 7.3.2 Internal short-circuit test (cell)
- cl. 8.2.2 Overcharge control of voltage (battery system)
- cl. 8.2.3 Overcharge control of current (battery system)
- cl. 8.2.4 Overheating control (battery system)

Number of samples required for testing: 23 cells (C1-C23) and 2 batteries (B1-B2).

Tests are made with the number of batteries specified in IEC 62619: 2017 Table 1.

**Testing location:**

**Dongguan BALUN Testing Technology Co., Ltd.**  
No. 6 Industrial South Road, Songshan Lake District, Dongguan, Guangdong, China

**Summary of compliance with National Differences (List of countries addressed):**

N/A

**The product fulfils the requirements of IEC62619: 2017.**