



Test Report

For

ANSI/CAN/UL9540A

**Test Method for Evaluating Thermal Runaway Fire
Propagation in Battery Energy Storage Systems**

[Unit Level]

Report Number: CQES221100025101

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Test object / Model: Lithium Ion Battery

Applicant's name: StackRack Battery Building Systems, LLC

**Address: 1751 California Ave #101, Corona, California 92881, The
United States of America**



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SGS-CEC Technology (Chongqing) Co., Ltd.
标准新能源技术(重庆)有限公司

Affiliate No.6, No.2 Fuyun Road, Shuanglu Street, Jiangjin District, Chongqing, China (No.1 Laboratory Building, Chongqing Energy College) 402260 t (86-23) 863676001 www.sgs.com.cn
中国·重庆市江津区双福街道福云大道2号附6号(重庆能源职业学院1#实验楼幢) 邮编: 402260 t (86-23) 863676001 sgs.china@sgs.com

[Summary of Test results]

Cell Level Test
 Cell model:
 CB27173204EA
 Project No:
 CN21GRDU 001

Cell Design:	CB27173204EA
Thermal Runaway Methodology:	External heating
Cell Surface Temperature at Gas venting:	209.4°C
Cell Surface Temperature at the onset of Thermal Runaway:	270.7°C
Gas Composition:	Hydrocarbon, H ₂ , CO ₂ , CO
Lower Flammability Limit:	5.6 Vol% at ambient temperature 4.5 Vol% at 200°C
Burning Velocity:	83.6 cm/s
Pmax:	1.015 MPa
Thermal Runaway was Induced in the Cell or not:	Induced
Cell Vent Gas is Flammable or not in Air:	Flammable

Unit Level Test
 Model: SR5K-UL
 Report No:
 CQES221100025101

Unit Design:	
Thermal Runaway Methodology:	External heating
External Flaming:	No external flaming observed
Locations of Flame Extension:	No flame extension observed
Flying Debris:	No flying debris observed
Explosion or not:	No explosion observed
Max. Surface Temperature of Module in Target BESS Unit:	158.1°C
Max. Temperature Rise on Wall Surfaces:	94.3°C
Thermal Runaway are Contained by the Unit Design or not:	Contained by the unit design
Cell Vent Gas is Flammable or not:	Flammable
Cheesecloth Indicator Flaming or not:	No flaming or carbonizing of the cheesecloth indicator
Test Video File:	Archived by applicant

Remark:

1. This report only evaluated unit level test which is listed inside the dotted box.
2. All test data were copied from SGS report No. CQES220800015301, dated 2022-09-07, with change of applicant.



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 中国·重庆市江津区双福街道福云大道2号附6号(重庆能源职业学院1#实验楼幢) 邮编: 402260 t (86-23) 863676001 sgs.china@sgs.com