



TEST REPORT ANSI/CAN/UL 9540A:2025 TUV SUD Test Report for Unit Level – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems	
Report No.:	704082527110-00
Date of issue:	2025-12-21
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Client:	Jiangsu Elecnova Energy Storage Co., Ltd.
Client number:	134575
Address:	Building A2, No. 59, Dongsheng Road, 214437 Jiangyin City, Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA
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Standard:	This TUV SUD test report form is based on the following requirements: ANSI/CAN/UL 9540A:2025 Fifth Edition (5Ed)
TRF number and revision:	TRF ANSI/CAN/UL 9540A:2025 Rev 0
eDoc_ID:	
TRF originated by:	TUV SUD NEW ENERGY TESTING (GUANGDONG) CO., LTD., Mrs. Zoey Liu
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Scheme:	<input type="checkbox"/> TUV Mark <input type="checkbox"/> cTUV Mark (SCC) <input type="checkbox"/> TUVus Mark (NRTL) <input type="checkbox"/> GS Mark <input checked="" type="checkbox"/> without certification <input type="checkbox"/> other: <input type="checkbox"/> AoC/CoC for EU-Directive / EU-Regulation:
Non-standard test method:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, see details under <i>Summary of testing</i>
National deviations:	N/A



Number of pages (<i>Report</i>):	65		
Number of pages (<i>Attachments</i>):	N/A		
Compiled by:	Jing Gao	Approved by:	Haiyang Liu
(+ signature)	<i>Jing Gao</i>	(+ signature)	<i>Haiyang Liu</i>

Test sample:	Energy Storage System
Type of test object:	Prototype Sample
Trademark:	Elecnova
Model and/ or type reference:	ECO-E20FT2170LP-2
Rating(s):	see label

Manufacturer:	Jiangsu Elecnova Energy Storage Co., Ltd.
Manufacturer number:	134575
Address:	Building A2, No. 59, Dongsheng Road, 214437 Jiangyin City, Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA

Name and address of factory(ies)
Jiangsu Sfer Electric Co., Ltd.
Address1: No.1,Dongding Road 214400 Jiangyin,Jiangsu PEOPLE'S REPUBLIC OF CHINA
Address2: No.59, DongSheng Road, 214400 Jiangyin, Jiangsu, PEOPLE'S REPUBLIC OF CHINA

Sub-contractors / tests (clause):	N/A
Name:	N/A
Order description:	<input checked="" type="checkbox"/> Complete test according to TRF
	<input type="checkbox"/> Partial test according to manufacturer's specifications
	<input type="checkbox"/> Preliminary test
	<input type="checkbox"/> Spot check
	<input type="checkbox"/> Others:
Date of order:	2025-07-25
Date of receipt of test item:	2025-09-29
Date(s) of performance of test:	2025-10-19 to 2025-10-23

Test item particulars:
According to Unit Level of ANSI/CAN/UL 9540A:2025 Fifth Edition. Decision rule according to IEC Guide 115:2023, clause 9.2 was applied.

Purpose of the product (description of intended use):
The Energy Storage System, ECO-E20FT2170LP-2 is used in industrial appliance which consists of 9 Rechargeable Lithium-ion Battery Rack (System) model ECO-R1P240LP and power converter system (PCS) model EPCS125-AM in parallel, liquid cooling system, model GS-045YN1A-L-G and other auxiliary subsystem, such as fire suppression system and communication system etc..
Rechargeable Lithium-ion Battery Rack (System), ECO-R1P240LP consists of one high voltage control box and 5 Rechargeable Li-ion Battery Modules with model ECO-P1P48LP connected in series. The

Rechargeable Li-ion Module ECO-P1P48LP consists of 48 Rechargeable Li-ion Cells with model LFP71173207/314Ah connected in series.
The Energy Storage System, ECO-E20FT2170LP-2 can be used at specified ambient range. Temperature: -25 °C ... +55 °C (Charging and Discharging), altitude: ≤ 2000 m.

Characteristic data (not shown on the marking plate): for battery system, others see marking plate for details

Table for parameters	
Grid Input/Output Port	
Nominal AC Voltage	3/N/PE AC 230/400 V
Nominal AC Frequency	50/60 Hz
Max. AC Current	AC 1520 A
Max. AC Power	1000 kW
Integrated Battery System Parameters	
Nominal Voltage	DC 768 V
Voltage Range	DC 672 V, ..., 864 V
Rated Capacity	2826 Ah
Rated Energy	2170.368 kWh
General Parameters	
Ingress Protection	IP54
Protective Class	I
Operating Ambient Temperature Range	-25 °C, ..., 55 °C
Altitude	≤ 2000 m
Prospective short-circuit current I _{cp}	35 kA
Prospective short-circuit current I _{cp,mr}	20 kA
Dimension	Length: 6058 mm Width: 2438 mm Height: 2591 mm
Weight	Approx. 28000 Kg

Manufacture declared a rack as the test unit. Detail information is listed in following table

Product name	Rechargeable Li-ion Battery Rack
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Nominal voltage	DC 768 V
Rated capacity	314 Ah
Charging voltage specified by manufacturer	DC 864 V or any cell reach 3.6 V
Upper limit charging voltage	-
Charging power specified by manufacturer	120000 W
Maximum continuous charging power	120000 W
Discharging power specified by manufacturer	120000 W
Maximum continuous discharging power	120000 W
End of discharge voltage	DC 672 V or any cell less than 2.8 V
Standard temperature range for charging	-25 °C, ..., 55 °C
Standard temperature range for discharging	-25 °C, ..., 55 °C
Standard charging method specified by manufacturer	Charge at constant power 120000 W until voltage reaches 3.6 V
Standard discharging method specified by manufacturer	-
Dimension	W×D×H: 875.5 mm x 2197.5 mm x 1117 mm
Weight	Approx. 1850 kg
Number of cells and configuration	(48S)5S