

TEST REPORT IEC 62619 Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for secondary lithium cells and batteries, for use in industrial applications		
Report Number.	TSZ26C3046A06-01	
Date of issue	2026-05-29	
Total number of pages	26 Pages	
Applicant's name	Huizhou Epever Technology Co., Ltd.	
Address	No. 6 Laowu Road, Start-up Area of China-Korea (Huizhou)Industrial Park, Zhongkai District, Huizhou City, Guangdong Province,China	
Test specification:		
Standard	IEC 62619:2022	
General disclaimer:		
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing laboratory.		
Test item description	Rechargeable Li-ion Battery Module	
Trade Mark(s)	N/A	
Manufacturer	Huizhou Epever Technology Co., Ltd. No. 6 Laowu Road, Start-up Area of China-Korea (Huizhou)Industrial Park, Zhongkai District, Huizhou City, Guangdong Province,China	
Model/Type reference	LF51314A, LF51314E	
Ratings	51.2V, 314Ah, 16076.8Wh	
Testing Laboratory:		
		Shenzhen Tiansu Calibration and Testing Co., Ltd.
Testing location/ address		
		No.2, Jinlong Avenue, Longgang District, Shenzhen, Guangdong, China
Tested by (name, function, signature)		
Bob Yuan /Test engineer		Bob Yuan.
Reviewed by (name, function, signature) .. :		
Leon Gong /Reviewer		Leon Gong
Approved by (name, function, signature) .. :		
Diamond Duan /Technical director		Diamond Duan



List of Attachments (including a total number of pages in each attachment): N/A	
Summary of testing:	
Tests performed (name of test and test clause): 7.2.3 Drop test (battery Module) 8.2.2 Overcharge control of voltage (battery Module) 8.2.3 Overcharge control of current (battery Module) 8.2.4 Overheating control (battery Module) Cell (Model: NP71173207-314) has been evaluated according to IEC 62619: 2022, Certificate No.: FR_721569, Report No.: BSYH-ESH-P25030372.	Testing location: Shenzhen Tiansu Calibration and Testing Co., Ltd. No.2, Jinlong Avenue, Longgang District, Shenzhen, Guangdong, China
The product fulfils the requirements of EN IEC 62619:2022.	



Copy of marking plate:**The artwork below may be only a draft.****Marking for LF51314A**

	Product Name: Rechargeable Li-ion Battery Module
+	Model Name: LF51314A IFpP/73/175/208/[16S]M/-20+50/95
	Manufacturer: Huizhou Epever Technology Co., Ltd.
	Ratings: 51.2V, 314Ah, 16076.8Wh
	YYYYMMDD0001 Made in China
	Recommended Charge: 100A CC charge to 57.6V, then CV (constant voltage 57.6V) charge till charge current decline to 15.7A
-	Caution: Risk of Fire and Burns.
	Description of disposal: Comply with local regulations

Marking for LF51314E

	Product Name: Rechargeable Li-ion Battery Module
+	Model Name: LF51314E IFpP/73/175/208/[16S]M/-20+50/95
	Manufacturer: Huizhou Epever Technology Co., Ltd.
	Ratings: 51.2V, 314Ah, 16076.8Wh
	YYYYMMDD0001 Made in China
	Recommended Charge: 100A CC charge to 57.6V, then CV (constant voltage 57.6V) charge till charge current decline to 15.7A
-	Caution: Risk of Fire and Burns.
	Description of disposal: Comply with local regulations

Remark:

1: The date code "YYYYMMDD0001"

1.1: YYYY stands for year.

1.2: MM stands for month.

1.3: DD stands for date.

1.4: 0001 represents the flow code.

Shenzhen Tiansu Calibration and Testing Co., Ltd.

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Web: www.tiansu.orgE-mail: tsjc@tiansu.org

Tel: +(86) 0755-89457984

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Test item particulars.....:	
Classification of installation and use.....:	To be defined in final product
Supply Connection	DC connector
Possible test case verdicts:	
- test case does not apply to the test object.....: N/A	
- test object does meet the requirement.....: P (Pass)	
- test object does not meet the requirement.....: F (Fail)	
Testing.....:	
Date of receipt of test item	2026-04-30
Date (s) of performance of tests	2026-05-09 to 2026-05-13
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report.	
"(See appended table)" refers to a table appended to the report.	
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Name and address of factory (ies) : Same as manufacturer	



General product information and other remarks:

The battery of model LF51314A is composed of sixteen lithium-ion cells (16S1P), and equipped with overcharge, overdischarge, overcurrent, and short circuit protection circuits.

LF51314A and LF51314E both same except for different model name and LF51314A have screen. Therefore, the battery system LF51314A could be chosen as the representative testing unit.

	Cell	Battery
Model	NP71173207-314	LF51314A
Rated capacity (Ah)	314	314
Nominal voltage (V)	3.2	51.2
Recommended Charge Current (A)	157	100
Maximum Charge Current (A)	314	200
Recommended Discharge Current (A)	157	100
Maximum Discharge Current (A)	314	200
Charging voltage declared by manufacturer (V)	3.65	57.6
Upper limit charging voltage (V)	3.65	57.6
End-of-discharge Voltage (V)	2.5	41.6
Charge temperature Range (°C)	0~60	0~50
Discharge temperature Range (°C)	-20~60	-20~50
Nominal mass (kg)	5.6±0.3	118±3
External dimensions (mm)	(71.63±0.5)*(173.8±0.5) *(204.21±0.5)	(500.00±0.5)*(850.00±0.5)*(235.00±0.5)
	Battery	
Model	LF51314E	
Rated capacity (Ah)	314	
Nominal voltage (V)	51.2	
Recommended Charge Current (A)	100	
Maximum Charge Current (A)	200	
Recommended Discharge Current (A)	100	
Maximum Discharge Current (A)	200	
Charging voltage declared by manufacturer (V)	57.6	
Upper limit charging voltage (V)	57.6	
End-of-discharge Voltage (V)	41.6	
Charge temperature Range (°C)	0~50	
Discharge temperature Range (°C)	-20~50	
Nominal mass (kg)	118±3	
External dimensions (mm)	(500.00±0.5)*(850.00±0.5)*(235.00±0.5)	



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
4	PARAMETER MEASUREMENT TOLERANCES		P
	Parameter measurement tolerances		P

5	GENERAL SAFETY CONSIDERATIONS		P
5.1	General		P
	Cells and batteries are safe under conditions of both intended use and reasonably foreseeable misuse... :	Clause 6, Clause 7, 8.1, and 8.2. See also table 5.1 for Critical components information	P
	Reduce the risk of injuries from moving parts		P
5.2	Insulation and wiring		P
	Voltage, current, altitude, and humidity requirements		P
	Adequate clearances and creepage distances between connectors and live parts at different voltages or between live parts and non-current-carrying accessible parts		P
	Protect from hazardous live parts, including during installation		P
	The mechanical integrity of internal connections		P
5.3	Venting		P
	Pressure relief function		P
	Encapsulation used to support cells within an outer casing		P
5.4	Temperature/voltage/current management		P
	The design prevents abnormal temperature-rise		P
	Voltage, current, and temperature limits of the cells		P
	Specifications and charging instructions for equipment manufacturers		P
5.5	Terminal contacts of the battery pack and/or battery system		P
	Polarity marking(s)		P
	Polarity marking not provided for keyed external connector		N/A
	Capability to carry the maximum anticipated current		P
	External terminal contact surfaces		P
	Terminal contacts are arranged to minimize the risk of short circuits		P
5.6	Assembly of cells, modules, or battery packs into battery systems		P

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IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.1	General		P
	Independent control and protection method(s)		P
	Recommendations of cell operating limits, mounting advice, storage conditions and other design recommendations by the cell manufacturer		P
	Batteries designed for the selective discharge of a portion of their series connected cells		N/A
	Protective circuit component(s) and consideration to the end-device application		P
5.6.2	Battery system design		P
	The voltage control function		P
	Maximum charging/discharging current of the cell are not exceeded		P
5.7	Operating region of lithium cells and battery systems for safe use		P
	The cell operating region..... :	See Page 5.	P
	Designation of battery system to comply with the cell operating region		P
5.8	System lock (or system lock function)		N/A
	Non-resettable function to stop battery operation		N/A
	Manual with procedure for resetting of battery operation		N/A
	Emergency battery final discharge		N/A
5.9	Quality plan		P
	Manufacturing quality plan (for example: ISO9001, etc.) prepared and implemented :		N/A
	The process capabilities and the process controls		P

6	TYPE TEST CONDITIONS		P
6.1	General		P
6.2	Test items		P
	Cells or batteries that are not more than six months old (See Table 1 of IEC 62619)		P
	Capacity confirmation of the cells or batteries		P
	Default ambient temperature of test, 25 °C ± 5 °C		P

7	SPECIFIC REQUIREMENTS AND TESTS		P
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IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
7.1	Charging procedure for test purposes		P
	The battery discharged to a specified final voltage prior to charging		P
	The cells or batteries charged using the method specified by the manufacturer	Battery Module: 100A CC (Constant current) charge to 57.6V, then CV (constant voltage 57.6V) charge till charge current decline to 15.7A	P
7.2	Reasonably foreseeable misuse		P
7.2.1	External short-circuit test (cell or cell block)	CB approval cell.	N/A
	Short circuit with total resistance of 30 mΩ ± 10 mΩ at 25 °C ± 5 °C		N/A
	Results: no fire, no explosion		N/A
7.2.2	Impact test (cell or cell block)	CB approval cell.	N/A
	Cylindrical cell, longitudinal axis impact		N/A
	Prismatic cell, longitudinal axis and lateral axis impact		N/A
	Results: no fire, no explosion.		N/A
7.2.3	Drop test (cell or cell block, and battery system)		P
7.2.3.1	General		P
7.2.3.2	Whole drop test (cell or cell block, and battery system)	CB approval cell.	N/A
	Description of the Test Unit.....		—
	Mass of the test unit (kg)		—
	Height of drop (m).....		—
	Results: no fire, no explosion		N/A
7.2.3.3	Edge and corner drop test (cell or cell block, and battery system)		P
	Description of the Test Unit.....	Battery Module	—
	Mass of the test unit (kg)	116.335	—
	Height of drop (m).....	0.025	—
	Results: no fire, no explosion		P
7.2.4	Thermal abuse test (cell or cell block)	CB approval cell.	N/A
	Results: no fire, no explosion		N/A
7.2.5	Overcharge test (cell or cell block)	CB approval cell.	N/A



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
	For those battery systems that are provided with only a single protection for the charging voltage control		—
	Results: no fire, no explosion..... :		N/A
7.2.6	Forced discharge test (cell or cell block)	CB approval cell.	N/A
	Cells connected in series in the battery system :		N/A
	Redundant or single protection for discharge voltage control provided in battery system :		N/A
	Target Voltage :		N/A
	Maximum discharge current of the cell, I_m :		N/A
	Discharge current for forced discharge, $1.0 I_t$:		N/A
	Discharging time, $t = (1 I_t / I_m) \times 90$ (min.) :		N/A
	Results: no fire, no explosion..... :		N/A
7.3	Considerations for internal short-circuit – Design evaluation		N/A
7.3.1	General		N/A
7.3.2	Internal short-circuit test (cell)	CB approval cell.	N/A
	Samples preparation procedure: In accordance with Clause A.5 and A.6 of IEC 62133-2:2017		N/A
	Tested per 7.3.2 b) in an ambient temperature of $25\text{ °C} \pm 5\text{ °C}$.		N/A
	The appearance of the short-circuit location recorded by photograph or other means :		—
	The pressing was stopped - When a voltage drop of 50 mV was detected; or		N/A
	- The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) was reached		N/A
	Results: no fire..... :		N/A
7.3.3	Propagation test (battery system)		N/A
	Method to create a thermal runaway in one cell ... :		N/A
	Results: No external fire from the battery system, no battery case rupture :		N/A

8	BATTERY SYSTEM SAFETY (CONSIDERING FUNCTIONAL SAFETY)		P
8.1	General requirements		N/A
	Functional safety analysis for critical controls		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Conduct of a process hazard analysis for both the cell manufacturing process and the battery system manufacturing process		N/A
	Conduct of risk assessment and mitigation of the battery system		N/A
8.2	Battery management system (or battery management unit)		P
8.2.1	Requirements for the BMS		P
	The safety integrity level (SIL) target of the BMS		P
	The charge control evaluated by tests in clauses 8.2.2 to 8.2.4		P
8.2.2	Overcharge control of voltage (battery system)		P
	The exceeded charging voltage applied to the whole battery system		P
	The exceeded charging voltage applied to only a part of the battery system, such as the cell(s)..... :		N/A
	Results: no fire, no explosion..... :	See Table 8.2.2.	P
	The BMS terminated the charging before exceeding the upper limit charging voltage		P
8.2.3	Overcharge control of current (battery system)		P
	Results: no fire, no explosion..... :	See Table 8.2.3	P
	The BMS detected the overcharging current and controlled the charging to a level below the maximum charging current		P
8.2.4	Overheating control (battery system)		P
	The cooling system, if provided, was disconnected		N/A
	Elevated temperature for charging, 5 °C above maximum operating temperature..... :	55°C	P
	Results: no fire, no explosion..... :	See Table 8.2.4	P
	The BMS detected the overheat temperature and terminated charging		P
	The battery system operated as designed during test		P

9	EMC		N/A
	Battery system fulfil EMC requirements of the end-device application..... :		N/A



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
10	INFORMATION FOR SAFETY		P
	The cell manufacturer provides information about current, voltage and temperature limits of their products		P
	The battery system manufacturer provides information regarding how to mitigate hazards to equipment manufacturers or end-users.		P

11	MARKING AND DESIGNATION (REFER TO CLAUSE 5 OF IEC 62620)		P
	The marking items shown in Table 1 in IEC 62620 indicated on the cell, battery system or instruction manual.		P
	Cell or battery system has clear and durable markings		P
	Cell designation		N/A
	Battery designation		P
	Battery structure formulation		P

12	PACKAGING AND TRANSPORT		N/A
	Refer to Annex D		N/A

ANNEX A	OPERATING REGION OF CELLS FOR SAFE USE		P
A.1	General		P
A.2	Charging conditions for safe use		P
A.3	Consideration on charging voltage		P
A.4	Consideration on temperature		P
A.5	High temperature range		N/A
A.6	Low temperature range		N/A
A.7	Discharging conditions for safe use		P
A.8	Example of operating region		P

ANNEX B	PROCEDURE OF 7.3.3 PROPAGATION TEST BY LASER IRRADIATION		N/A
B.1	General		N/A
B.2	Test conditions		N/A
B.2.1	Cell test (preliminary test)		N/A



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
	The cell fully charged according to the manufacturer recommended conditions		—
	Laser irradiation point on the cell		—
	Output power of laser irradiation.....		—
	Tested in an ambient temperature of 25 °C ± 5 °C		N/A
	Repeat of cell test for 3 times		N/A
B.2.2	Battery system test (main test)		N/A
	The battery system fully charged according to the manufacturer recommended conditions		—
	Target cell to be laser irradiated		—
	The irradiation point on the target cell same or similar as that on the cell test		
	Output power of laser irradiation.....		—
	Tested in an ambient temperature of 25 °C ± 5 °C		N/A

ANNEX C	PROCEDURE OF 7.3.3 PROPAGATION TEST BY METHODS OTHER THAN LASER		N/A
C.1	General		N/A
C.2	Test conditions:		N/A
	– The battery fully charged according to the manufacturer recommended conditions		—
	– Target cell forced into thermal runaway		—
	– A specially prepared sample (e.g. a heater or a hole for nail penetration provided) used for ease of testing.....		—
C.3	Method used for initiating the thermal runaway. 1) Heater (Heater, Burner, Laser, Inductive heating 2) Overcharge 3) Nail penetration of the cell 4) Combination of above methods 5) Other methods.....		—

ANNEX D	PACKAGING AND TRANSPORT		N/A
	The materials and pack design chosen in a way as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of environmental contaminants		N/A



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
	Regulations concerning international transport of secondary lithium batteries		N/A



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

5.1	TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Cell	Guoke Energy(CHUZHOU)Co., Ltd.	NP71173207-314	3.2Vd.c., 314Ah	IEC 62619: 2022	Certificate No.: FR_721569, Report No.: BSYH-ESH-P25030372	
Power wire	Dongguan Yueshun Electronic Technology Co., LTD	3512	4AWG, 600V, 200° C	UL758	E526255	
Connector (+) (orange)	DONGGUAN ONE WIRE HARNESS NEW ENERGY TECHNOLOGY CO., LTD	LS076X01M	200A, 1500VDC, -40°C to 105° C	UL 4128	US 50597321 02	
Connector (-) (Black)	DONGGUAN ONE WIRE HARNESS NEW ENERGY TECHNOLOGY CO., LTD	LS076Y01M	200A, 1500VDC, -40°C to 105° C	UL 4128	US 50597321 02	
Metal enclosure (battery box)	Huizhou Epever Technology Co., Ltd.	LF51314A	Material: Zinc coated steel Dimensions: L500*W232.8*H 850mm Thickness: 1.2mm	--	Tested with appliance	
Metal enclosure (battery box)	Huizhou Epever Technology Co., Ltd.	LF51314E	Material: Zinc coated steel Dimensions: L500*W232.8*H 850mm Thickness: 1.2mm	--	Tested with appliance	



IEC 62619					
Clause	Requirement + Test		Result - Remark		Verdict
PVC	SICHUAN DONGFANG INSULATING MATERIAL CO LTD	DFR3615A(d)	V-0	UL94	E199019
PCB (Alternative)	Jiangxi Xusheng Electronics Co	XS-D	V-0, 130°C, Min thickness: 2.0 mm	UL 94 UL 796	E503744
IC-MCU(U4)	Geehy Semiconductor Co., Ltd	APM32E103VE T6_LQFP100	VDD: 2~3.6V VDDA/VSSA:2~3.6V VBAT :1.8~3.6V Topr: -40°C~+85°C	-	Tested with appliance
IC-AFE(U1)	SINO WEALTH ELECTRONIC LTD.	SH367309_TQF P48L	VBAT:8.5-70V, VCC: 3.3V Operating temperature range: -40~+85°C	-	Tested with appliance
IC(U15,U17,U28)	Shanghai Chipanalog Microelectronics Co., Ltd	CA-IS3722HS_SOI C8(S)	VDD: 2.5~5.5V VDDb:2.5~5.5V Topr: -55°C~+125°C	-	Tested with appliance
IC(U18)	3PEAK INCORPORATE D	TP8485E-SR_SOP-8	VBAT:3~5.5V, Topr: -40°C~+125°C	-	Tested with appliance
IC(U16,U29)	Hunan Silicon Internet of Things Technology Co., Ltd	SIT1050T_SOP-8	VCC:4.5~5.5 Topr: -40°C~+125°C	-	Tested with appliance
MOSFET (Q43,Q44,Q45,Q46,Q47,Q48,Q49,Q50,Q51,Q52,Q53,Q54,Q55,Q56,Q74,Q87,Q88,Q92,Q93,Q94,Q95,Q96,Q97,Q98,Q104,Q105,Q106,Q107,Q108,Q109,Q112)	Jiangsu JieJie Microelectronics Co.,Ltd.	JMSH1001MTL_TOLL-8	VDS : 100V, VGS : ±20V, Tstg : -55° C to 150° C	-	Tested with appliance



IEC 62619					
Clause	Requirement + Test		Result - Remark		Verdict
Resistor(R9,R141,R148,R156,R159,R165,R174,R209,R214,R216,R232,R239,R240,R390,R391,R393,R394,R395,R396,R400,R397)	RALEC ELECTRONIC CORPORATION	LM 2512 - 2 1 R001 F 4	2W,1m Ω ,2512	-	Test with appliance
NTC	NANJING SHIHENG ELECTRONICS CO LTD	MF52D-103F3435	R25: 10K $\Omega \pm 1\%$, B25/85: 3435K $\pm 1\%$	UL 1434	E240991
Lead wire	Dongguan Fugen Electronics Co Ltd	1007	24AWG,80°C,300V	UL 758	E529050
Lead wires (charge & discharge)	Dongguan Yue Zhen Wire & Cable Co Ltd	3512	14AWG, HB, 200°C, 600V	UL 758	E354338
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

7.2.1	TABLE: External short-circuit test (cell or cell block)					N/A
Sample No.	Ambient (at 25°C ± 5°C)	OCV at start of test (V dc)	Resistance of Circuit (mΩ)	Maximum Case Temperature Rise ΔT (°C)	Results	
--	--	--	--	--	--	
--	--	--	--	--	--	
--	--	--	--	--	--	
Supplementary information: A – No fire or Explosion B – Fire C – Explosion D – The test was completed after 6 h E – The test was completed after the cell casing cooled to 20% of the maximum temperature rise F – Other (Please explain): ____						

7.2.5	TABLE: Overcharge test (cell or cell block)					N/A
Sample No.	OCV at start of test (V dc)	OCV at end of test (V dc)	Measured Maximum Charging Current (A)	Measured Maximum Charging Voltage (V dc)	Max. Cell Case Temperature, (°C)	Results
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
Supplementary information: Results: A – No fire or Explosion B – Fire C – Explosion D – Test concluded when temperature reached a steady state condition E – Test concluded when temperature returned to ambient F – Other (Please explain): ____						



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

7.2.6	TABLE: Forced discharge test (cell or cell block)				N/A
Sample No.	OCV before applying reverse charge, (V dc)	Target Voltage (V dc)	Measured Reverse Charge Current I_t , (A)	Total Time for Reversed Charge Application (min)	Results
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary information: Results: A – No fire or Explosion B – Fire C – Explosion D – Other (Please explain): ____					



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

7.3.2	TABLE: Internal short-circuit test (cell)				N/A
Sample No.	OCV at start of test, (V dc)	Particle location ¹⁾	Maximum applied pressure, (N)	Results	
--	--	--	--	--	
--	--	--	--	--	
--	--	--	--	--	
--	--	--	--	--	
--	--	--	--	--	
--	--	--	--	--	

Supplementary information:

Identify one of the following:

1: Nickel particle inserted between positive and negative (active material) coated area.

2: Nickel particle inserted between positive aluminium foil and negative active material coated area.

Results:

A – No fire or explosion

B – Fire

C – Explosion

D – Test concluded when 50 mV voltage drop occurred prior to reaching force limit

E – Test concluded when 400 N pressure was reached and 50 mV voltage drop was not achieved

F – Test was concluded when fire or explosion occurred

G – Other (Please explain): ____



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

7.3.3	TABLE: Propagation test (battery system)					N/A
Sample No.	OCV of Battery System Before Test, (V dc)	OCV of Target Cell Before Test, (V dc)	Maximum Cell Case Temperature, (°C)	Maximum DUT Enclosure Temperature, (°C)	Results	
--	--	--	--	--	--	
--	--	--	--	--	--	
--	--	--	--	--	--	
Method of cell failure ¹⁾		Location of target cell		Area for fire protection (m²)		
--		--		--		
--		--		--		
--		--		--		
Supplementary information:						
1) Cell can be failed through laser exposure, applied heat, overcharge, nail penetration or combinations of these failures or other acceptable methods. See supporting documentation for details on cell failure method						
2) If the battery system has no outer covering, the manufacturer is required to specify the area for fire protection.						
Results:						
A – No fire external to DUT enclosure or area for fire protection or no battery case rupture						
B – Fire external to DUT enclosure or area for fire protection						
C – Explosion						
D – Battery case rupture						
E – Other (Please explain): ____						



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

8.2.2	TABLE: Overcharge control of voltage (battery system)				P
Sample No.	OCV at start of test for Cell/Cell Blocks, (V dc)	Maximum Charging Current, (A)	Max. Charging Voltage, (V dc)	Max. Voltage of Cell/Cell Blocks, (V dc)	Results
B01	Min 2.695	200	58.277	3.65	A, D, F
			Charge Voltage Applied Battery System: 1)		
			Whole	Part	
			64.24V	--	
Supplementary information: The exceeded voltage can be applied to only a part of the system such as the cell(s) in the battery system per Figure 6 of IEC 62619, if it is difficult to do it in using the whole battery system. Results: A – No Fire or Explosion B – Fire C – Explosion D – The voltage of the measured cells or cell blocks did not exceed the upper limit charging voltage E – The voltage of the measured cells or cell blocks did exceed the upper limit charging voltage F – All function of battery system did operate as intended during the test. G – All function of battery system did not operate as intended during the test. H – Other (Please explain): ____					

8.2.3	TABLE: Overcharge control of current (battery system)				P
Sample No.	OCV at start of test, (V dc)	Max. Charging Current, (A)	Max. Charging Voltage, (V dc)	Results	
B01	43.475	240	50.143	A, D, F	
Supplementary information: Results: A – No fire or Explosion B – Fire C – Explosion D – Overcurrent sensing function of BMU did operate and then charging stopped E – Overcurrent sensing function of BMU did not operate and then charging stopped F – All function of battery system did operate as intended during the test. G – All function of battery system did not operate as intended during the test. H – Other (Please explain): ____					



IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

8.2.4	TABLE: Overheating control (battery system)			P
Model No.	OCV at start(SOC 50%) of test, V dc	Maximum Charging Current, A	Maximum Charging Voltage, V dc	
B01	52.809	100	53.973	
Maximum Specified Temperature of Battery System, °C		Maximum Measured Cell Case Temperature, °C	Results	
50		54.1	A, D, F	
Supplementary information:				
Results:				
A – No fire or Explosion				
B – Fire				
C – Explosion				
D – Temperature sensing function of BMU did operate and then charging stopped				
E – Temperature sensing function of BMU did not operate and then charging stopped				
F – All function of battery system did operate as intended during the test.				
G – All function of battery system did not operate as intended during the test.				
H – Other (Please explain): _____				



Product Photo

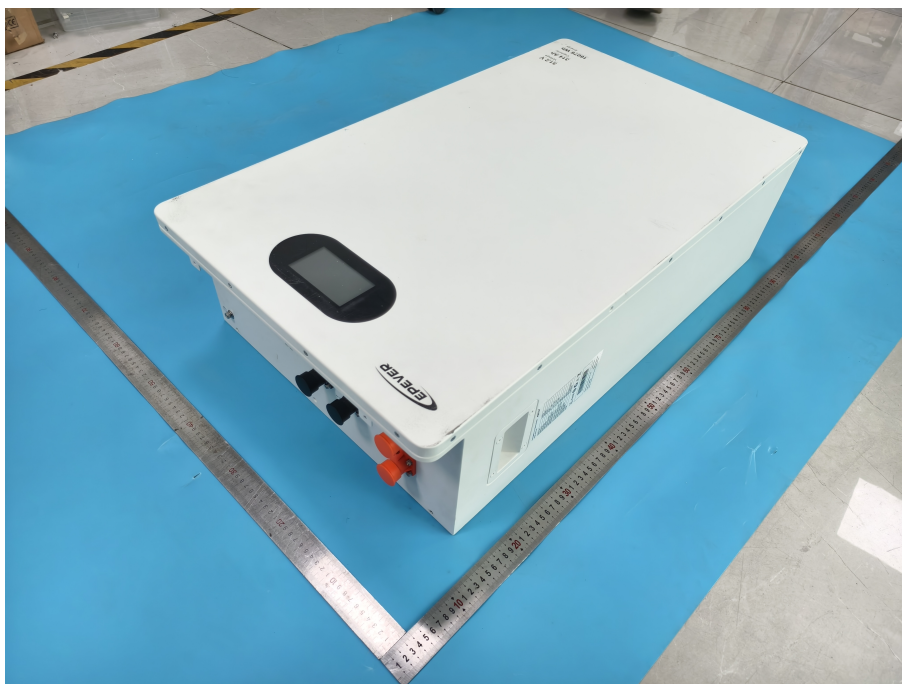


Figure 1 Front view of battery module of LF51314A



Figure 2 Back view of battery module of LF51314A



Product Photo

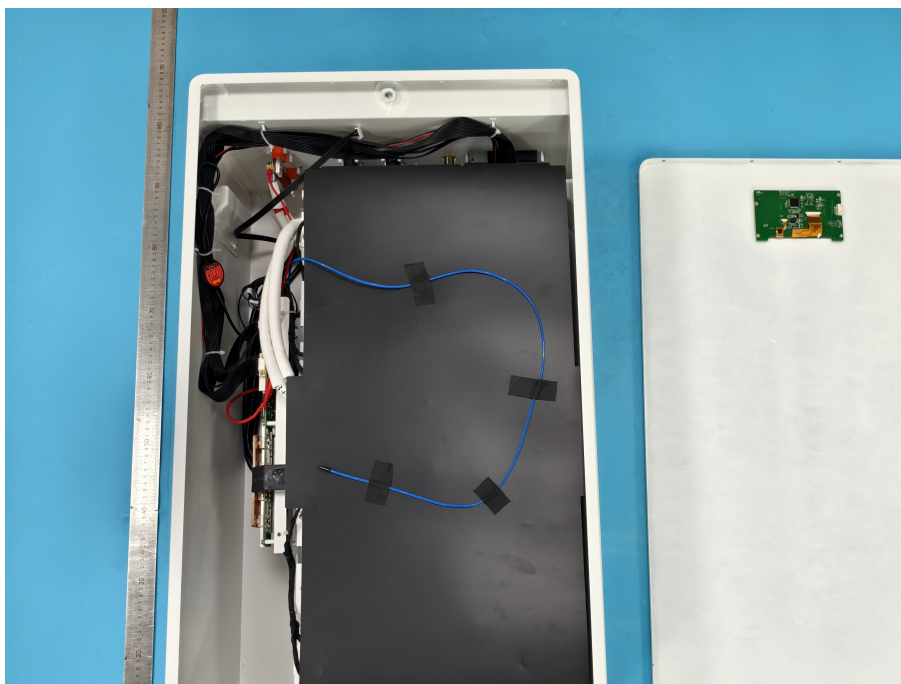


Figure 3 Battery interior view of LF51314A



Figure 4 Battery interior view of LF51314A



Product Photo



Figure 5 Front view of screen board on LF51314A

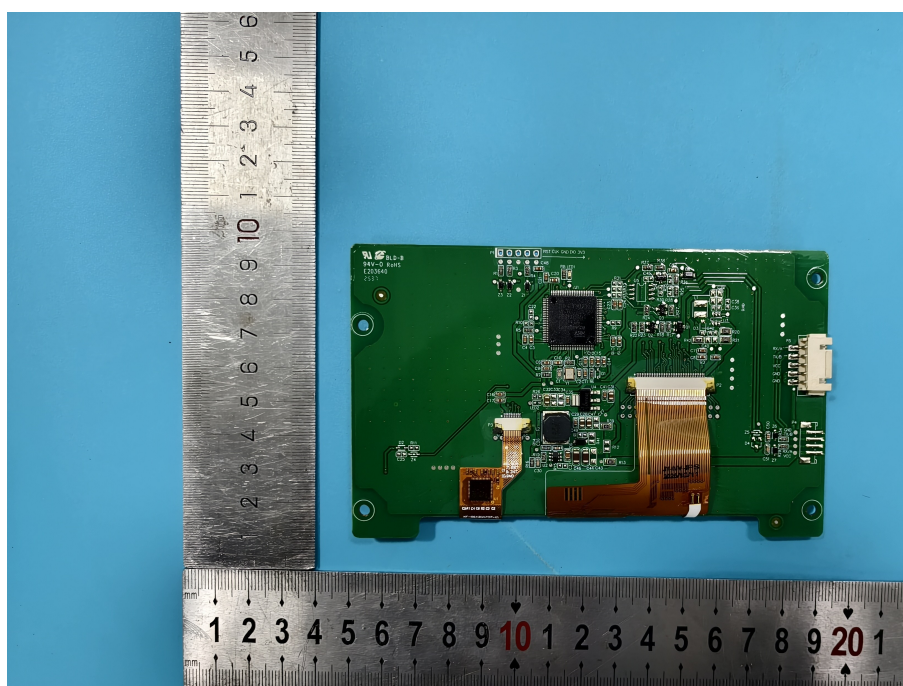


Figure 6 Back view of screen board on LF51314A



Product Photo



Figure 7 Front view of top cover on battery Module of LF51314E

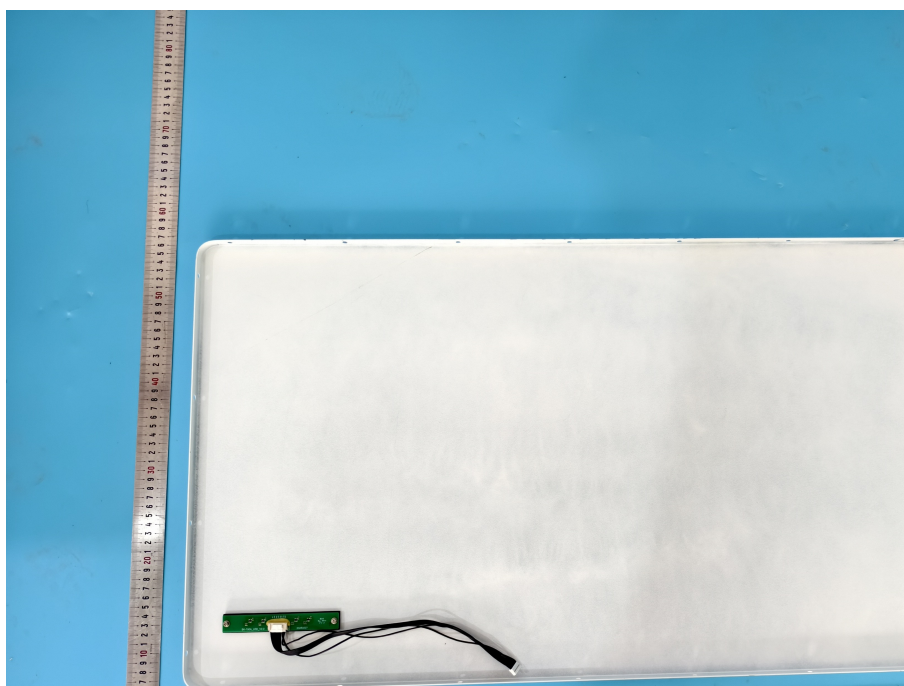


Figure 8 Front view of top cover on battery Module of LF51314E

