Test Report issued under the responsibility of:

TÜVRheinland®

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..... :	CN21LSPD 003
Date of issue ..... :	2022-07-25
Total number of pages.....	10 pages
Name of Testing Laboratory preparing the Report ..... :	TÜV Rheinland (Shenzhen) Co., Ltd. 1F East & 3F West -4F, Cybio Technology Building No.1, No.16 Kejibei 2nd Road, High-Tech Industrial Park North Nanshan District, 518057, Shenzhen, China
Applicant's name..... :	EVE POWER Co., Ltd.
Address..... :	No.68, Jingnan Avenue, Jingmen Hi-tech Zone, Jingmen City, Hubei, P.R. China
Test specification:	
Standard..... :	IEC 62619: 2017
Test procedure..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC62619A
Test Report Form(s) Originator.... :	UL(Demko)
Master TRF ..... :	Dated 2018-06-07

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description..... :	Rechargeable lithium ion Cell
Trade Mark..... :	N/A
Manufacturer..... :	Same as applicant
Model/Type reference ..... :	LF280K
Ratings..... :	3.2 V, 280 Ah

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	TÜV Rheinland (Shenzhen) Co., Ltd.	
Testing location/ address .....:		1F East & 3F West -4F, Cybio Technology Building No.1, No.16 Kejibei 2nd Road, High-Tech Industrial Park North Nanshan District, 518057, Shenzhen, China	
Tested by (name, function, signature) .....:		Xun Yu / PE	
Approved by (name, function, signature)..:		Corney Zhang / Reviewer	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address .....:			
Tested by (name, function, signature) .....:			
Approved by (name, function, signature)..:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address .....:			
Tested by (name + signature) .....:			
Witnessed by (name, function, signature).:			
Approved by (name, function, signature)..:			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address .....:			
Tested by (name, function, signature) .....:			
Witnessed by (name, function, signature).:			
Approved by (name, function, signature)..:			
Supervised by (name, function, signature):			

List of Attachments (including a total number of pages in each attachment):
N/A.

Summary of testing:

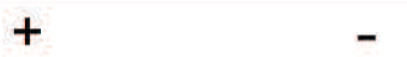
Tests performed (name of test and test clause):	**Testing location:**
N/A The samples comply with the requirement of IEC 62619: 2017.	N/A.

Summary of compliance with National Differences (List of countries addressed):
No EU Group differences

☒ **The product fulfils the requirement of EN 62619:2017**

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks



Rechargeable Li-ion Cell
Model name:LF280K
3.2V, 280Ah, 896Wh
Standard charge current: 140A
Max. charge voltage: 3.65V
lFpP73/175/209/M/-10+50/90
Date: C710001234
EVE POWER Co., Ltd

Caution:
Prohibition short circuit
Don't reverse the positive and negative terminals
Don't discard the cell in fire or heater
Don't directly solder the cell
Don't pierce the cell with a nail or other sharp object
Never disassemble the cell

Remark:
Date: C710001234.
C - represents the manufactured year, C means 2022, D means 2023, E means 2024 … Z means 2045.
7 - represents the manufactured month, 1 means Jan. 2 means Feb. … 9 means Sep. A means Oct. B means Nov. C means Dec.
1 - represents the manufactured day, 1 means day 1, 2 means day 2…., 9 means day 9, A means day 10, B means day 11…, V means day 31.
0001234 - series No.
The model name and manufacturing traceability shall be marked on the battery surface. The other items listed above can be marked on the smallest package or supplied with the cell.

Test item particulars.....:	
Classification of installation and use.....:	To be defined in final product
Supply Connection.....:	Not directly connected to mains
.....:	
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 ..... :	N/A
Date of receipt of test item..... :	N/A
Date (s) of performance of tests ..... :	N/A

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.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies).....: Same as applicant

General product information and other remarks:

The main features of the cell are shown as below:

Product name	Rechargeable Lithium Ion Cell
Model	LF280K
Capacity	280Ah
Nominal voltage	3.2V
Nominal charge current	140A
Maximum continuous charge current	280A
Nominal discharge current	140A
Maximum continuous discharge current	280A
Maximum charge voltage	3.65 V
Upper charge temperature	+55 °C
Lower charge temperature	0 °C
Upper discharge temperature	+55 °C
Lower discharge temperature	-20 °C
Storage temperature range	1 month: -20~45℃ 1 year: 0~35°C
Recommend charging method declared by the manufacturer	At constant current 0.5 C till cell voltage reaches 3.65 V, then switch to constant voltage 3.65 V till charge current drops to 0.05 C.
Charging procedure for internal short-circuit test	At constant current 0.5 C till cell voltage reaches 3.65 V, then switch to constant voltage 3.65 V till charge current drops to 0.05C.
Recommend discharging method declared by the manufacturer	Discharging the cell with 0.5 C constant current to discharge cut-off voltage 2.50 V
Nominal mass (kg)	5.42±0.3 kg
External dimensions (mm)	Thickness: 72±1mm High: 207.2±1 mm Width: 173.7±1 mm

Description of changes:

1. The External dimensions(mm):
   From **Thickness: 72±0.5mm,High: 207.5±0.5 mm,Width: 173.7±0.5 mm** to **Thickness: 72±1mm,High: 207.2±1 mm,Width: 173.7±1 mm.**
2. The Marking. Change the cell designation and add the encoding rules of Date. Details see page 4.
3. The Protective film above the Venting.

From  to  .

Change	Testing	Comment
1	N/A	No additional test necessary.
2	N/A	No additional test necessary.
3	N/A	No additional test necessary.

History of amendments and modifications:
Ref. No. CN21LSPD 001, dated 2021-04-01(original test report)
Ref. No. CN21LSPD 002, dated 2022-04-19(1st amendment)
Ref. No. CN21LSPD 003, dated 2022-07-25(2st amendment)

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

10	**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.	See page 4	P
	Cell or battery system has clear and durable markings		P
	Cell designation	IFpP73/175/209/M/-10+50/ 90	P
	Battery designation		N/A
	Battery structure formulation		N/A

- End of test report -

Product: Rechargeable lithium ion Cell

Type Designation: LF280K

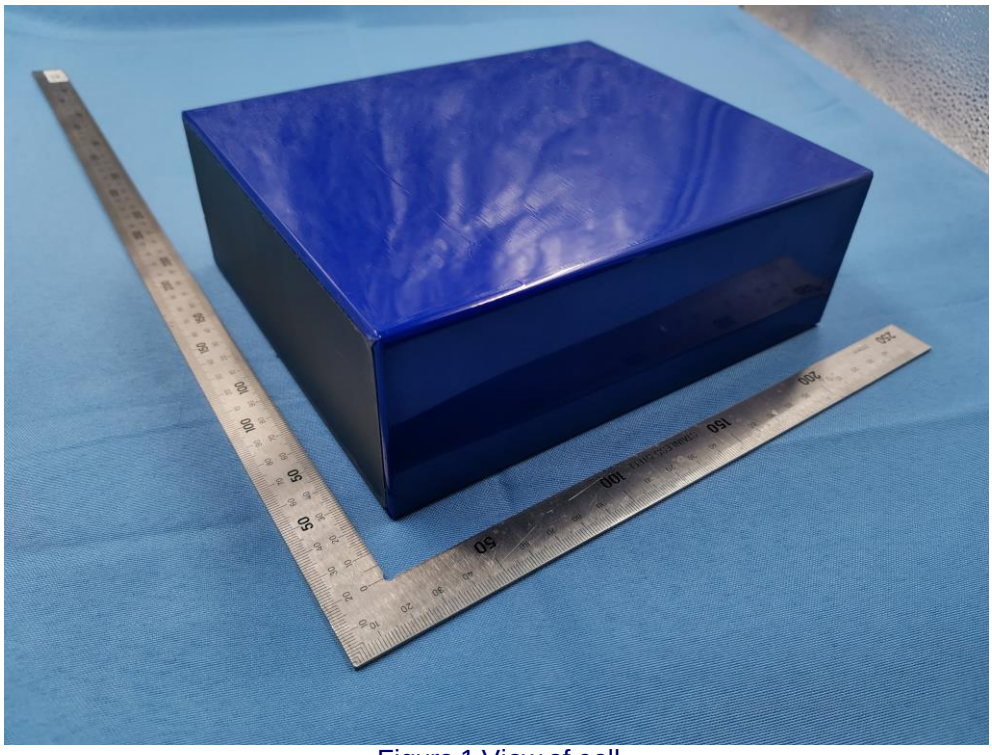


Figure 1 View of cell

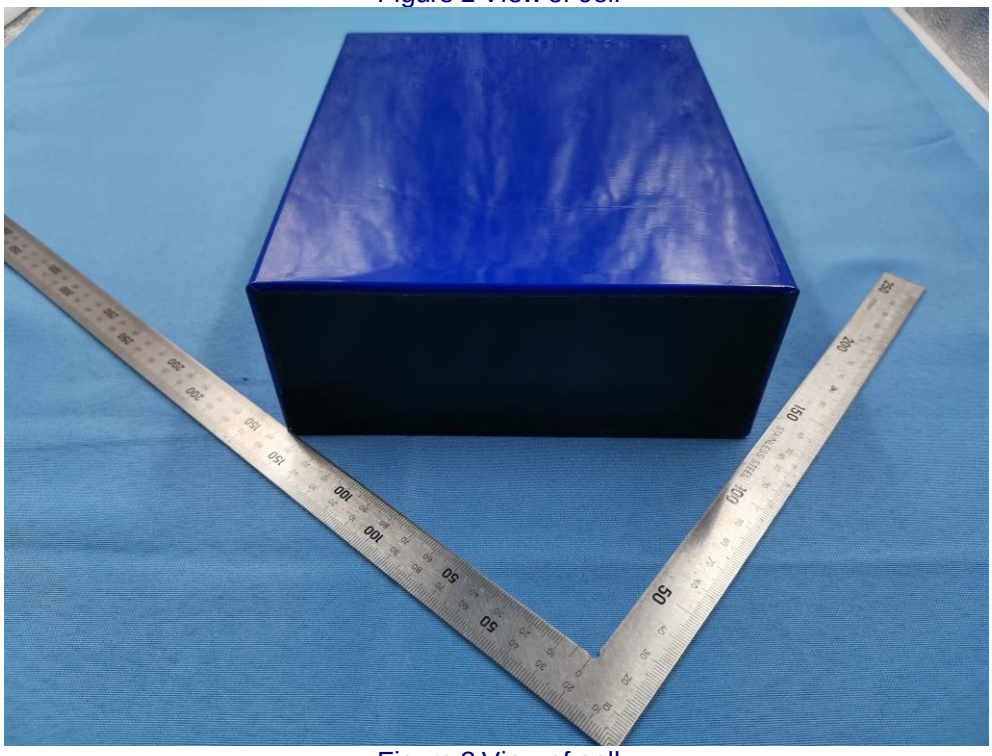


Figure 2 View of cell

Product: Rechargeable lithium ion Cell

Type Designation: LF280K

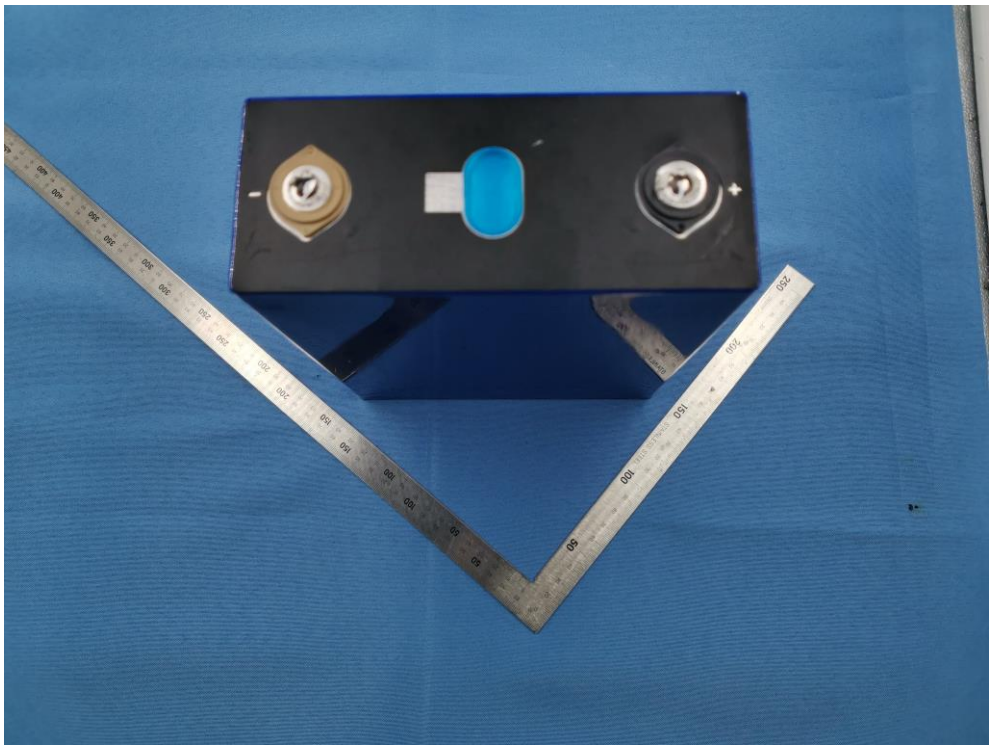


Figure 3 View of cell

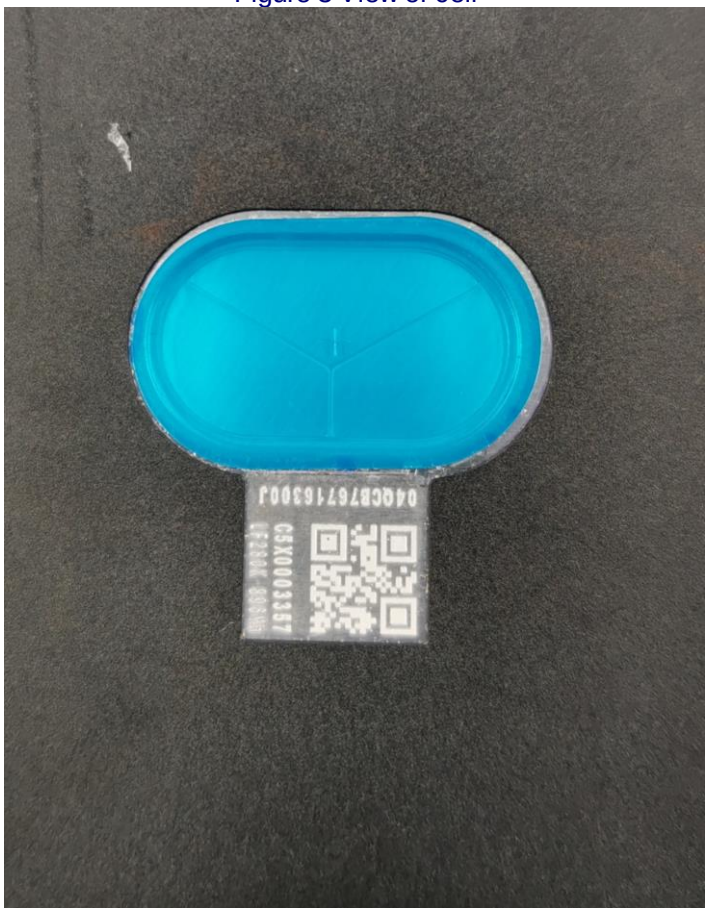


Figure 4 View of cell