



Test Report issued under the responsibility of:



Electrical &
Electronics

**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..... : EFGX25120270-IE-04-L01

Date of issue : 2026-01-23

Total number of pages : 34 Pages

**Name of Testing Laboratory
preparing the Report :** Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.

Applicant's name : Shanghai PYTES Energy Co., Ltd.

Address : No. 3492 Jinqian Road, Fengxian District, Shanghai, China

Test specification:

Standard : IEC 62619:2022

Test procedure : CB Scheme

Non-standard test method : N/A

TRF template used : IECEE OD-2020-F1:2022, Ed.1.5

Test Report Form No. : IEC62619B

Test Report Form(s) Originator : UL Solutions (Demko)

Master TRF : Dated 2023-02-24

Copyright © 2023 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

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 IECEE 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 NCB. 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 Li-ion Battery	
Trademark(s).....	Pytes	
Manufacturer	Shanghai PYTES Energy Co., Ltd. No. 3492 Jinqian Road, Fengxian District, Shanghai, China	
Model/Type reference.....	EX2000	
Ratings.....	DC 51.2V, 50Ah	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	CB Testing Laboratory:	Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.
Testing location/ address		Room 20 of 2/F., 1/F., Building 2, Spring Block & Room 102, 104, Building 8, Autumn Block, Meishenghuigu Innovation Park, No.83, Dabao Road, Bao' an District, Shenzhen, Guangdong, China
Tested by (name, function, signature)		(Project Engineer) Loong Huang <i>Loong Huang</i>
Approved by (name, function, signature) ..		(Designated reviewer) Simon Wei <i>Simon Wei</i>
☐	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): Attachment 1: Photo documentation (6 pages)	
Summary of testing: From the result of our inspection and tests on the submitted samples, we conclude they comply with requirements of the standard.	
Tests performed (name of test, test clause and date test performed): ☒ Clause 7.1 Charging procedures for test purposes ☐ Clause 7.2.1 External short-circuit test (cell); ☐ Clause 7.2.3.2 Whole drop test (Battery system); ☐ Clause 7.2.4 Thermal abuse test (cell); ☐ Clause 7.2.5 Overcharge test (cell); ☐ Clause 7.2.6 Forced discharge test (cell); ☐ Clause 7.3.2 Internal short-circuit test (cell); ☒ Clause 7.2.3.3 Edge and corner drop test (battery system) ☐ Clause 7.3.3 Propagation test (Battery system) ☒ Clause 8.2.2 Overcharge control of voltage (Battery system); ☒ Clause 8.2.3 Overcharge control of current (Battery system); ☒ Clause 8.2.4 Overheating control (Battery system); The samples comply with the requirement of IEC 62619: 2022.	Testing location: (CBTL, SPTL, CTF, Subcontractor) Eurofins Electrical Testing Service (Shenzhen) Co., Ltd. Room 20 of 2/F., 1/F., Building 2, Spring Block & Room 102, 104, Building 8, Autumn Block, Meishenghuigu Innovation Park, No.83, Dabao Road, Bao' an District, Shenzhen, Guangdong, China
Summary of compliance with National Differences (List of countries addressed): No EU Group Differences ☒ The product fulfils the requirements of <u>EN IEC 62619:2022</u>	

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other: ... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

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.

Pytes

Product Model	EX2000
Battery Type	Rechargeable Li-ion Battery
Operating Voltage Range	47.5Vd.c.~56.8Vd.c.
Nominal Voltage	51.2Vd.c.
Rated Energy	2.56kWh
Rated Capacity	50Ah
Rated Charge/Discharge Current	25A

CAUTION!

- ◆ Do not dispose of batteries in a fire, as they may explode.
- ◆ Do not open or mutilate batteries. The released electrolyte is harmful to the skin and eyes and may be toxic.
- ◆ Batteries can present a risk of electric shock or burns from high short-circuit currents.
- ◆ Failed batteries can reach temperatures exceeding safe touch thresholds for surfaces.



S/N:

Date:



2025-Nov.-4

MADE IN CHINA
 Shanghai PYTES Energy Co.,Ltd.
 No.3492, Jinqian Road, Fengxian
 District, Shanghai, 201406, China
www.pytesess.com
ess_support@pytesgroup.com

Remark:

1.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 battery.

The others required marking items are indicated on the battery manual.

Date code: YYYY=Year, MM=Month, DD=Day.

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.....:	
Date of receipt of test item 2025-12-12	
Date (s) of performance of tests 2025-12-13 to 2026-01-20	
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. The project tests have fully taken into account CTL.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:	
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) : Shanghai PYTES Energy Co., Ltd. No. 3492 Jinqian Road, Fengxian District, Shanghai, China	

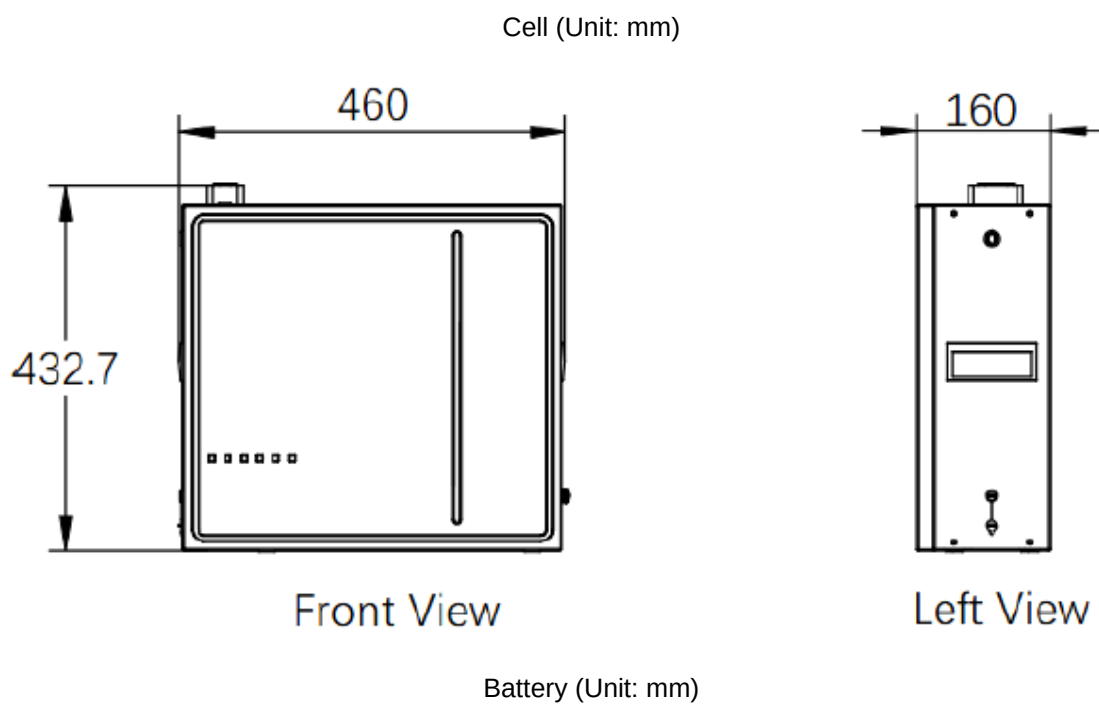
General product information and other remarks:

This battery is constructed with 16pcs Lithium-ion cells (16S), and has overcharge, over-discharge, over current and short-circuits proof circuit.

The main features of the Battery are shown as below:

Product name	Rechargeable Prismatic Lithium-ion Cell	Rechargeable Li-ion Battery
Type/model	/	EX2000
Rated capacity (Ah)	/	50
Nominal voltage (V)	/	51.2
Standard Charge Current (A)	/	25
Standard Discharge Current (A)	/	25
Maximum Charge Current (A)	/	40
Maximum Discharge Current (A)	/	40
Charge temperature (°C)	/	2 to 57
Discharge temperature (°C)	/	-20 to 57
Storage temperature range (°C)	/	-30~60
Standard Charge Voltage (V)	/	56.8
Maximum Charge Voltage (V)	/	58
Cut off Voltage (V)	/	47.5
Battery configuration		
Pack Pattern	16S	
Recommend charging method declared by the manufacturer	/	Charge at constant current 25A until voltage reaches 56.8V, then charge at constant voltage 56.8V till charge current is 2.5A
Standard discharging method by manufacturer	Discharge the battery at constant current 25A until the voltage of battery reaches 47.5V. Then discharge cut-off.	
Battery Size	Approx. W*H*D=460*432.7*160mm	
Weight	Approx. 32kg	
Overcharge protected voltage supply by battery system	58.0V	
Overheating protect temperature supplied by battery pack (Charge)	57°C	

Construction Unit(mm):



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... :	See also table 5.1 for Critical components information	P
	Reduce the risk of injuries from moving parts	No such components.	N/A
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	Vent design in cell.	P
	Encapsulation used to support cells within an outer casing		P
5.4	Temperature/voltage/current management		P
	The design prevents abnormal temperature-rise	Overcharge control of voltage see Clause 8.2.2; Overcharge control of current see Clause 8.2.3; Overheating control see Clause 8.2.4	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		P
	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

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
5.6	Assembly of cells, modules, or battery packs into battery systems		P
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..... :	Information mentioned in manufacturer's specifications.	P
	Designation of battery system to comply with the cell operating region		P
5.8	System lock (or system lock function)		P
	Non-resettable function to stop battery operation		P
	Manual with procedure for resetting of battery operation		P
	Emergency battery final discharge		N/A
5.9	Quality plan		P
	Manufacturing quality plan (for example: ISO9001, etc.) prepared and implemented :	ISO 9001:2015 certification provided.	P
	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

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
7	SPECIFIC REQUIREMENTS AND TESTS		P
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..... :	The method mentioned in manufacturer's specifications	P
7.2	Reasonably foreseeable misuse		P
7.2.1	External short-circuit test (cell or cell block)	Certif. No: JPTUV-150540-A1/M1	N/A
	Short circuit with total resistance of 30 mΩ ± 10 mΩ at 25 °C ± 5 °C		P
	Results: no fire, no explosion		P
7.2.2	Impact test (cell or cell block)	Certif. No: JPTUV-150540-A1/M1	N/A
	Cylindrical cell, longitudinal axis impact		N/A
	Prismatic cell, longitudinal axis and lateral axis impact		P
	Results: no fire, no explosion.		P
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)	Certif. No: JPTUV-150540-A1/M1	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 system	—
	Mass of the test unit (kg)..... :	31.9kg	—
	Height of drop (m)..... :	0.1m	—
	Results: no fire, no explosion		P
7.2.4	Thermal abuse test (cell or cell block)	Certif. No: JPTUV-150540-A1/M1	N/A
	Results: no fire, no explosion		P
7.2.5	Overcharge test (cell or cell block)	Certif. No: JPTUV-150540-A1/M1	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..... :		P
7.2.6	Forced discharge test (cell or cell block)	Certif. No: JPTUV-150540-A1/M1	N/A
	Cells connected in series in the battery system :		P
	Redundant or single protection for discharge voltage control provided in battery system :		N/A
	Target Voltage :		P
	Maximum discharge current of the cell, I_m :		P
	Discharge current for forced discharge, 1.0 I_t :		P
	Discharging time, $t = (1 I_t / I_m) \times 90$ (min.) :		P
	Results: no fire, no explosion..... :		P
7.3	Considerations for internal short-circuit – Design evaluation		P
7.3.1	General		P
7.3.2	Internal short-circuit test (cell)	Certif. No: JPTUV-150540-A1/M1	N/A
	Samples preparation procedure: In accordance with Clause A.5 and A.6 of IEC 62133-2:2017		P
	Tested per 7.3.2 b) in an ambient temperature of $25\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.		P
	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		P
	Results: no fire..... :		P
7.3.3	Propagation test (battery system)	Alternate test item 7.3.3 performed.	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		P

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
	Functional safety analysis for critical controls	Analysis for functional safety according to Annex H of IEC 60730-1:2020, Class B	P
	Conduct of a process hazard analysis for both the cell manufacturing process and the battery system manufacturing process		P
	Conduct of risk assessment and mitigation of the battery system		P
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	Annex H of IEC 60730-1:2020, Class B	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 :	60°C	P
	Results: no fire, no explosion :	See Table 9.25	P
	The BMS detected the overheat temperature and terminated charging		P
	The battery system operated as designed during test		P
9	EMC		N/A

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
	Battery system fulfil EMC requirements of the end-device application..... :	Intended for to be tested in the end use application.	N/A

10	INFORMATION FOR SAFETY		P
	The cell manufacturer provides information about current, voltage and temperature limits of their products	Provided in Specification.	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.	See more detail in page 4.	P
	Cell or battery system has clear and durable markings		P
	Cell designation	IFpP41/150/102/M/-30+60/95	P
	Battery designation	IFpP41/150/102[16S]E/-20+50/95	P
	Battery structure formulation	16S	P

12	PACKAGING AND TRANSPORT		P
	Refer to Annex D		P

ANNEX A	OPERATING REGION OF CELLS FOR SAFE USE		P
A.1	General	See General Product Information for details.	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	Charging upper temperature limit 57°C	P
A.6	Low temperature range	Charging lower temperature limit 2°C	P
A.7	Discharging conditions for safe use	-20 ~ 57°C	P
A.8	Example of operating region		P

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

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
	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.....		—

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: This test has been verified in the Certif. No: JPTUV-150540-A1/M1.						

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: This test has been verified in the Certif. No: JPTUV-150540-A1/M1.						

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 It, (A)	Total Time for Reversed Charge Application (min)	Results	
/	/	/	/	/	/	
/	/	/	/	/	/	
/	/	/	/	/	/	
Supplementary information: This test has been verified in the Certif. No: JPTUV-150540-A1/M1.						

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: This test has been verified in the Certif. No: JPTUV-150540-A1/M1.						

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 (m ²)		
/		/		/		
/		/		/		
/		/		/		
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): ____						

8.2.2	TABLE: Overcharge control of voltage (battery system)					P
Sample No.	OCV at start of test (V dc)	Maximum Charging Current, (A)	Max. Charging Voltage, (V dc)	Max. Voltage of Cell/Cell Blocks, (V dc)	Results	
EX2000 251213-03-001#	47.3	40	57.9	3.65	A, D, F	
/	/	/	/	/	/	
/	/	/	/	/	/	
			Charge Voltage Applied Battery System: 1)			
			Whole		Part	
			64.24		-	

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information: 1) 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): ____			

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

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
EX2000 251213-03-001#	47.3	40	58.0	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): ____				

8.2.4	TABLE: Overheating control (battery system)			P
Model No.	OCV at start(SOC 50%) of test, V dc	Maximum Charging Current, A	Measured Maximum Charging Voltage, V dc	
EX2000 251213-03-001#	53.4	25	58.0	
/	/	/	/	
/	/	/	/	
Maximum Specified Temperature of Battery System, °C		Maximum Measured Cell Case Temperature, °C	Results	
57.0		57.0	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): _____				

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

9	TABLE: EMC				N/A
Standard used for EMC test:					
Sample No.	EMC Test Item	Battery Condition	EMC Test Level/ Parameters	Compliance Criteria	Results
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
Supplementary information: Battery Condition During EMC test 1 – In Operation Mode, [] Supplied at ____, [] Load at ____ 2 – In non-operation Mode, Battery state of charge (SOC) before test at around ____ Compliance Criteria and Test Results: A – No fire or Explosion B – Fire C – Explosion D – Battery system did operate as intended during the test. E - All function of battery system did operate as intended after the test. F - All function of battery system did not operate as intended during the test, (Please explain): ____ G - Other (Please explain): ____					

Attachment I: Photos



Picture 1 View-1 of battery



Picture 2 View-2 of battery



Picture 3 socket-1 of battery(top)



Picture 4 socket-2 of battery(bottom)