

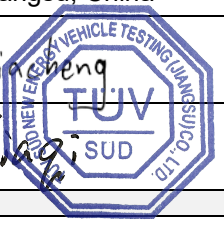
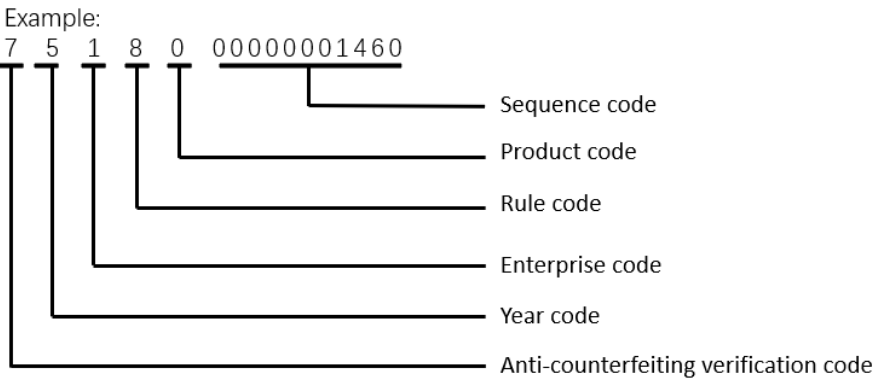
	Test Report issued under the responsibility of:	
NCB TÜV SÜD PSB Pte. Ltd. 15 International Business Park, TÜV SÜD @IBP, Singapore 609937, Singapore		
<p style="text-align: center;">TEST REPORT IEC 62619</p> <p style="text-align: center;">Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for secondary lithium cells and batteries, for use in industrial applications</p>		
Report Number..... : 088-012500036-000 Date of issue..... : 2026-01-16 Total number of pages : 30 pages		
Name of Testing Laboratory preparing the Report : TÜV SÜD New Energy Vehicle Testing (Jiangsu) Co., Ltd.		
Applicant's name : Shanghai PYTES Energy Co., Ltd. Address : No. 3492, Jinqian Road, Fengxian District, 201406 Shanghai, PEOPLE'S REPUBLIC OF 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		
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Test item description	Rechargeable Li-ion Battery	
Trademark(s)	Pytes	
Manufacturer	Shanghai PYTES Energy Co., Ltd. No. 3492, Jinqian Road, Fengxian District, 201406 Shanghai, PEOPLE'S REPUBLIC OF CHINA	
Model/Type reference	V16	
Ratings	51.2 Vd.c., 314 Ah	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/> CB Testing Laboratory:	TÜV SÜD New Energy Vehicle Testing (Jiangsu) Co., Ltd.	
Testing location/ address	Building A, No.15 Factory, Jintong International Industrial Park, No.8, Xihu Road, Wujin National Hi-tech Industrial Development Zone, Changzhou, Jiangsu, China	
Tested by (name, function, signature)	Zhu Jiacheng (Project Handler)	
Approved by (name, function, signature) ...	Li Jiaqi (Designated Reviewer)	
		
<input type="checkbox"/> Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ...		
<input type="checkbox"/> Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) :		
Approved by (name, function, signature) ...		
<input type="checkbox"/> Testing procedure: CTF Stage 3:		
<input type="checkbox"/> 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 No. 1: Photo Documentation (17 pages)											
Summary of testing:											
Tests performed (name of test, test clause and date test performed): In section 7 and 8, tests of clause 7.2.3.3, clause 8.2.2, clause 8.2.3 and clause 8.2.4 were performed on Rechargeable Li-ion Battery, model: V16. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th style="width: 50%;">Name of test, test clause</th> <th style="width: 50%;">Date of test performed</th> </tr> <tr> <td>-Cl. 7.2.3.3 Edge or corner test (cell or cell block, and battery system)</td> <td>2025-10-30</td> </tr> <tr> <td>- Cl. 8.2.2 Overcharge control of voltage (battery system)</td> <td>2025-10-29</td> </tr> <tr> <td>- Cl. 8.2.3 Overcharge control of current (battery system)</td> <td>2025-10-23</td> </tr> <tr> <td>- Cl. 8.2.4 Overheating control (battery system)</td> <td>2025-10-30 to 2025-10-31</td> </tr> </table> <p>The samples comply with the above requirements of IEC 62619:2022 (Edition 2.0).</p>	Name of test, test clause	Date of test performed	-Cl. 7.2.3.3 Edge or corner test (cell or cell block, and battery system)	2025-10-30	- Cl. 8.2.2 Overcharge control of voltage (battery system)	2025-10-29	- Cl. 8.2.3 Overcharge control of current (battery system)	2025-10-23	- Cl. 8.2.4 Overheating control (battery system)	2025-10-30 to 2025-10-31	Testing location: (CBTL, SPTL, CTF, Subcontractor) TÜV SÜD New Energy Vehicle Testing (Jiangsu) Co., Ltd. Address: Building A, No.15 Factory, Jintong International Industrial Park, No.8, Xihu Road, Wujin National Hi-tech Industrial Development Zone, Changzhou, Jiangsu, China
Name of test, test clause	Date of test performed										
-Cl. 7.2.3.3 Edge or corner test (cell or cell block, and battery system)	2025-10-30										
- Cl. 8.2.2 Overcharge control of voltage (battery system)	2025-10-29										
- Cl. 8.2.3 Overcharge control of current (battery system)	2025-10-23										
- Cl. 8.2.4 Overheating control (battery system)	2025-10-30 to 2025-10-31										
Summary of compliance with National Differences (List of countries addressed): EU group differences are considered, there is no difference between IEC 62619:2022 and EN IEC 62619:2022.											
The product fulfils the requirements of <u>EN IEC 62619:2022</u>.											
Use of uncertainty of measurement for decisions on conformity (decision rule): <input checked="" type="checkbox"/> 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"). <input type="checkbox"/> 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.											

Remark:

- 1. “+” and “-” are marked near the connector of the battery.
- 2. S/N: “751800000001460”, the interpretation is shown as follows:



- “2025-Mar-4” represents the date of manufacture. It represents the battery manufactured on March 4th, 2025. This is not the manufacture date of actual samples and only for example.
- 3. The disposal and caution information are in the manual.

Test item particulars: Rechargeable Li-ion Battery	
Classification of installation and use: Use in industrial applications	
Supply Connection: Supply by battery connectors:	
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: 2025-10-13	
Date (s) of performance of tests: 2025-10-23 to 2025-10-30	
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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC62619B:	
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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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, 201406 Shanghai, PEOPLE'S REPUBLIC OF CHINA	

General product information and other remarks:

1. The Rechargeable Li-ion Battery, model no. V16, consist of 16 pcs cells (model no.), which connected in 16S. The cell has been approved with IEC 62619:2022 certification.
2. Additionally, details information of the batteries and its component cell are shown in following table:

Table for parameters		
Item	Specifications	
Product name	Rechargeable Prismatic Lithium-ion Cell	Rechargeable Li-ion Battery
Type/model		V16
Nominal voltage	3.2Vd.c.	51.2Vd.c.
Rated capacity	314Ah	314 Ah
Recommended charging voltage by manufacturer	3.65V	56.8V
Upper limit charging voltage	3.75V	-
Recommended charging current by manufacturer	157A	125A
Maximum continuous charging current	314A	200A
Recommended discharging current by manufacturer	157A	150A
Maximum continuous discharging current	314A	200A
Discharging cut off voltage	2.5 V (T>0 °C); 2.0 V (T≤0 °C)	46.5V
Lower limit discharging voltage	2.5 V (T>0 °C); 2.0 V (T≤0 °C)	-
Standard temperature range for charging	0°C to 60°C	-
Standard temperature range for discharging	-30°C to 60°C	-
Standard charging method by manufacturer	Charge at constant current 157A until the voltage reaches 3.65V, then switch to constant voltage 3.65V till charge current drops to 15.7A	Charge at constant current 125A until voltage reaches 56.8V, then charge at constant voltage 56.8V till charge current is 9.42A.
Dimension	L*W*T: (71.7 ± 2.0) mm*(174.0 ± 2.0) mm*(206.8 ± 2.0) mm	L*W*H: (700 ± 2.0) mm*(671 ± 2.0) mm*(260 ± 2.0) mm
Weight	5.78 ± 0.3kg	130.0 ± 1.0kg
Configuration	-	16S

Remark:

The final evaluation of the battery must be conducted in the end device application for which the battery will be used.

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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		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		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		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
5.6	Assembly of cells, modules, or battery packs into battery systems		P
5.6.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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 7	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	The battery has a non-resettable protection when cell operating region (voltage, current, or temperature) is exceeded. It is not user resettable and not automatic reset.	P
	Manual with procedure for resetting of battery operation	The function of the battery can be reset by the manufacturer after checking the status of cells/batteries	P
	Emergency battery final discharge		N/A
5.9	Quality plan		
	Manufacturing quality plan (for example: ISO9001, etc.) prepared and implemented :	ISO9001 certificate was 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

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict

	Default ambient temperature of test, 25 °C ± 5 °C		P
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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	See page 7	P
7.2	Reasonably foreseeable misuse		P
7.2.1	External short-circuit test (cell or cell block)		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)		N/A
	Cylindrical cell, longitudinal axis impact		N/A
	Prismatic cell, longitudinal axis and lateral axis impact		N/A
	Results: no fire, no explosion.	See Table 7.2.1.	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)		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..... :	Rechargeable Li-ion Battery, model: V16	—
	Mass of the test unit (kg)..... :	Measured: 129.4kg	—
	Height of drop (m)..... :	0.025m	—
	Results: no fire, no explosion		P
7.2.4	Thermal abuse test (cell or cell block)		N/A
	Results: no fire, no explosion		N/A
7.2.5	Overcharge test (cell or cell block)		N/A

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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..... :	See Table 7.2.5.	N/A
7.2.6	Forced discharge test (cell or cell block)		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..... :	See Table 7.2.6.	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)		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 :	See Attachment # __	—
	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..... :	See Table 7.3.2.	N/A
7.3.3	Propagation test (battery system)	Clause 7.3.2 was tested in the cell report.	N/A
	Method to create a thermal runaway in one cell ... :	See Annex B and C	N/A
	Results: No external fire from the battery system, no battery case rupture :	See results in Table 7.3.3	N/A

8	BATTERY SYSTEM SAFETY (CONSIDERING FUNCTIONAL SAFETY)		P
8.1	General requirements		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Functional safety analysis for critical controls	Functional safety analysis has been evaluated according to Annex H of IEC 60730-1:2013 +AMD1:2015+AMD2:2020 Report no.: 5061925025708-00	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		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..... :	65°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

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Clause	Requirement + Test	Result - Remark	Verdict

9	EMC		N/A
	Battery system fulfil EMC requirements of the end-device application	See Table 9 [] See attachment # __ for detail EMC report [x] Intended for to be tested in the end use application [include specific application]	N/A

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		P
	Refer to Annex D		P

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

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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

ANNEX D	PACKAGING AND TRANSPORT		P
	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		P
	Regulations concerning international transport of secondary lithium batteries		P

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): ____					

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:

¹⁾ 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 800/400 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 (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): ____						

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
Battery 1	2.970	200.13	58.568	3.617	A, D, F
			Charge Voltage Applied Battery System: 1)		
			Whole	Part	
			66.0	-	
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):					

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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
Battery 1	47.300	376.83	50.697	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	
Battery 1	52.863	125.18	54.292	
Maximum Specified Temperature of Battery System, °C		Maximum Measured Cell Case Temperature, °C	Results	
57		54.77	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):				

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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): ____					

--- End ---