Test Report

Client	:	
Address	:	

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

Sample Name	:	Lithium ion battery
Model/P.O. No.	:	18650 2000mAh
Manufacturer	:	
Received Date	:	Jan 15, 2025
Test Period	:	Jan 15, 2025~Jan 21, 2025
Test Requested	:	Annex 1 of Regulation (EU) 2023/1542-Heavy Metals Content in batteries and waste batteries

Conclusion		
-	Lead(Pb), Cadmium(Cd), Mercury(Hg)	**PASS**

For Further Details, Please Refer To the Following Page(s)

Approved by:

Date: Jan 21, 2025

SHENZHEN TIANSU CALIBRATION AND TESTING CO.,LTD. Report Seal

ShenZhen Tiansu Calibration and Testing Co., Ltd.

Add: Building 1/4, No.2, Jinlong Road, Longgang District, Shenzhen, Guangdong, China. Post Code: 518116

Tel: 0755-89457984 Website: www.tiansu.org

E-mail: tsjc@tiansu.org

Test Methods

Test Items	Test Method	Equipment
Lead(Pb), Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES

Test Results

Test components	Test Item(s)	MDL (%)	Result(s) (%)	Limit (%)
Lithium ion battery (18650 2000mAh)	Lead(Pb)	0.0005	N.D.	0.0100
	Cadmium(Cd)	0.0005	N.D.	0.0020
	Mercury(Hg)	0.0001	N.D.	0.0005

Note:

- N.D.=Not Detected (<MDL); MDL=method detection limit.
- According to regulation (EU) 2023/1542, All batteries containing more than 0.002 % cadmium or more than 0.004 % lead, shall be marked with the chemical symbol for the metal concerned: Cd or Pb.
  The relevant chemical symbol indicating the heavy metal content shall be printed beneath the separate collection symbol and shall cover an area of at least one-quarter the size of that symbol.

Test Process:

Test Lead(Pb) ,Cadmium(Cd) , Mercury(Hg) concentration:

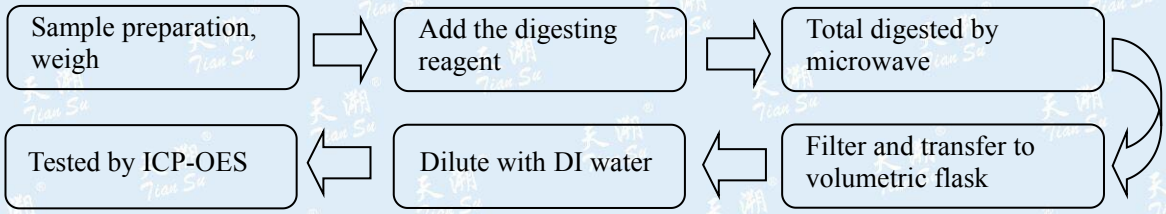
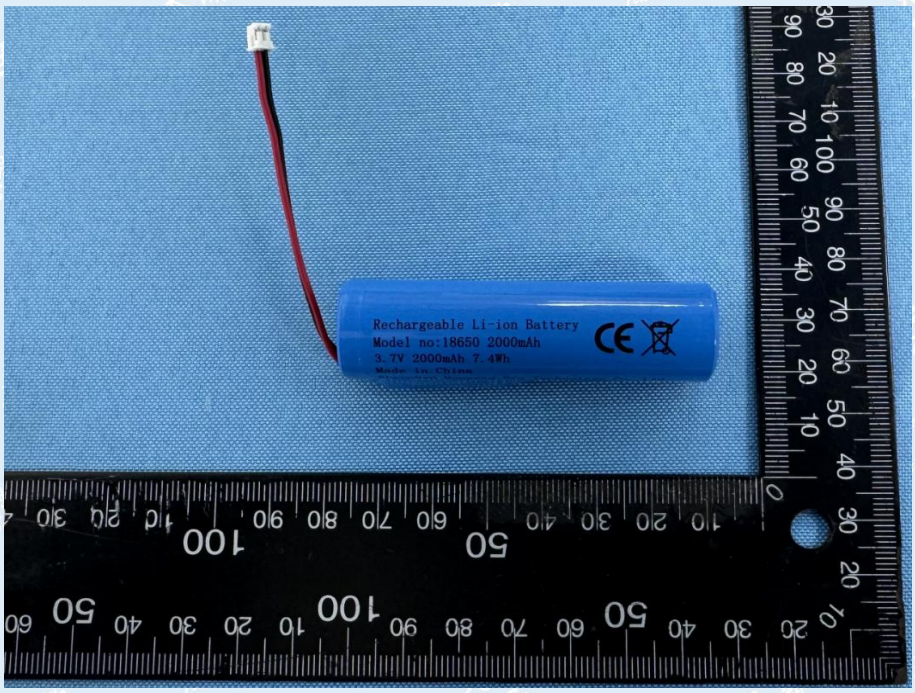


Photo of the sample



Sample

********** End of report **********

This report is invalid without the Special Seal of Tiansu. This report shall not be altered, increased or deleted. The results shown in this report refer only to the sample(s) tested.

Test Report issued under the responsibility of:

TEST REPORT
IEC 62133-2
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems

Report Number. .....:	TSZ25EF010A02-01
Date of issue .....:	2025-06-30
Total number of pages.....:	25
Name of Testing Laboratory preparing the Report.....:	Shenzhen Tiansu Calibration and Testing Co., Ltd.
Applicant's name.....:	
Address .....:	
Test specification:	
Standard.....:	IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021
Test procedure .....:	CB Scheme
Non-standard test method.....:	N/A
TRF template used .....:	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No.....:	IEC62133_2C
Test Report Form(s) Originator.....:	DEKRA Certification B.V.
Master TRF .....:	Dated 2022-07-01

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 .....:	Lithium-ion battery		
Trade Mark(s).....:	N/A		
Manufacturer.....:	Same as applicant		
Model/Type reference .....:	18650 2000mAh		
Ratings .....:	3.7V, 2000mAh, 7.4Wh		
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒ **CB Testing Laboratory:**	Shenzhen Tiansu Calibration and Testing Co., Ltd.		
Testing location/ address ..... :	Building 4, No.2, Jinlong Road, Longgang District, Shenzhen, Guangdong, China.		
Tested by (name, function, signature) ..... :	Sunny Li/Project Handler	Sunny Li	
Approved by (name, function, signature) .. :	Davis Ding/Reviewer	Davis Ding	
☐ **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):

National Differences (3 pages)

Enclosures (11 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
Testing for cell: 18650S20 7.2.1 Continuous charging at constant voltage (cells) 7.3.1 External short-circuit (cell) 7.3.3 Free fall 7.3.4 Thermal abuse (cells) 7.3.5 Crush (cells) 7.3.7 Forced discharge (cells) 7.3.9 Design evaluation – Forced internal short-circuit (cells) 8.2 Small cell and battery safety information **Testing for Battery: 18650 2000mAh** 7.2.2 Case stress at high ambient temperature (battery) 7.3.2 External short-circuit (battery) 7.3.3 Free fall 7.3.6 Over-charging of battery 7.3.8 Mechanical tests (batteries) 7.3.8.1 Vibration 7.3.8.2 Mechanical shock 8.2 Small cell and battery safety information	Shenzhen Tiansu Calibration and Testing Co., Ltd. Building 4, No.2, Jinlong Road, Longgang District, Shenzhen, Guangdong, China.

Summary of compliance with National Differences (List of countries addressed):

KR, EU group *, United Kingdom (Per customer's request shown separately)

*=No National or Group Differences declared, KR=Republic of Korea

☒ The product fulfils the requirements of KC 62133-2(2020-07)

☒ The product fulfils the requirements of EN 62133-2:2017, EN 62133-2:2017/A1:2021

☒ The product fulfils the requirements of BS EN 62133-2:2017, BS EN 62133-2:2017/A1:2021

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.

Lithium-ion battery
Model name: 18650 2000mAh
1INR19/66
Rating: 3.7V 2000mAh 7.4Wh
YYMMDD Made in China

Caution: Risk of Fire and Burns.
Follow Manufacturer's Instructions

Remark:
1. The code "YYMMDD" represents the date of manufacture. "YY" represents the year, "MM" represents the month and "DD" represents the day. For example, "250420" represents manufactured on April 20, 2025.

Test item particulars ..... :	--
Classification of installation and use ..... :	--
Supply Connection ..... :	DC connector
Recommend charging method declared by the manufacturer ..... :	CC/CV
Discharge current (0,2 lt A) ..... :	400mA (Cell), 400mA (Battery)
Specified final voltage ..... :	2.5V (Cell), 2.75V (Battery)
Upper limit charging voltage per cell ..... :	4.25V
Maximum charging current ..... :	2000mA (Cell), 2000mA (Battery)
Charging temperature upper limit ..... :	45°C (Cell), 45°C (Battery)
Charging temperature lower limit ..... :	0°C (Cell), 0°C (Battery)
Polymer cell electrolyte type ..... :	☐ gel polymer ☐ solid polymer ☒ N/A
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 ..... :	2025-05-22
Date (s) of performance of tests ..... :	2025-05-27 to 2025-06-03

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:

- Electronic components and single cell (1S1P) are mounted on PWB and connected to the DC connector through wire and housed in blue PVC for Lithium-ion battery (Model: 18650 2000mAh).

- Inner cell (Model: 18650S20) has been evaluated in this report according to IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021.

- Battery Pack (Model: 21700 9000mAh) has been evaluated to comply with UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3, test report No.: TSZ25EU051A03-01 issued on 2025-06-24, issued by Shenzhen Tiansu Calibration and Testing Co., Ltd.

- Type reference 1INR19/66 is IEC 61960-3:2017 designation which is identical model 18650 2000mAh except for model designation.

- Detailed information of the battery and the cell built in the battery, as following:

Product Name: Lithium-ion battery		
Type	Cell	Battery
Model	18650S20	18650 2000mAh
Rated Capacity	2000mAh	2000mAh
Nominal Voltage	3.7V	3.7V
Recommend Charging Voltage	4.2V	4.2V
Upper Limit Charging Voltage	4.25V	4.25V
Recommend Charging Current	1000mA	400mA
Maximum Charging Current	2000mA	2000mA
Recommend Discharging Current	1000mA	400mA
Maximum Discharging Current	4000mA	2000mA
End-of-discharge Voltage	2.5V	2.75V
End-of-charge Current	20mA	20mA
Operation Charge Temperature	0~45°C	0~45°C
Operation Discharge Temperature	-20~60°C	-20~60°C

Remark:
Second charging procedure for cell model 18650S20:
0°C: CC-CV charge cell at maximum charging current 2000mA to 4.25V and until current reaches 100mA.
45°C: CC-CV charge cell at maximum charging current 2000mA to 4.25V and until current reaches 100mA.

IEC 62133-2			
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 so designed and constructed that they are safe under conditions of both intended use and reasonably foreseeable misuse		P
5.2	**Insulation and wiring**		P
	The insulation resistance between the positive terminal and externally exposed metal surfaces of the battery (excluding electrical contact surfaces) is not less than 5 MΩ	No metal (excluding electrical contact surfaces) exists on the battery surfaces.	N/A
	Insulation resistance (MΩ).....:		—
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements		P
	Orientation of wiring maintains adequate clearances and creepage distances between conductors		P
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse		P
5.3	**Venting**		P
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition	Venting mechanism exists on the top of the cylindrical cell.	P
	Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief		N/A
5.4	**Temperature, voltage and current management**		P
	Batteries are designed such that abnormal temperature rise conditions are prevented		P
	Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer	Cell specification and battery specification have been provided. The design of the battery refers to the parameters of the cell.	P
	Batteries are provided with specifications and charging instructions for equipment manufacturers so that specified chargers are designed to maintain charging within the temperature, voltage and current limits specified	Battery specifications have been provided.	P
5.5	**Terminal contacts**		P

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current		P
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance		P
	Terminal contacts are arranged to minimize the risk of short circuits		P
5.6	**Assembly of cells into batteries**		P
5.6.1	General		P
	Each battery has an independent control and protection for current, voltage, temperature and any other parameter required for safety and to maintain the cells within their operating region	Protective circuit equipped on battery.	P
	This protection may be provided external to the battery such as within the charger or the end devices		N/A
	If protection is external to the battery, the manufacturer of the battery provide this safety relevant information to the external device manufacturer for implementation		N/A
	If there is more than one battery housed in a single battery case, each battery has protective circuitry that can maintain the cells within their operating regions		N/A
	Manufacturers of cells specify current, voltage and temperature limits so that the battery manufacturer/designer may ensure proper design and assembly	Current, voltage and temperature limits specified by cell manufacturer.	P
	Batteries that are designed for the selective discharge of a portion of their series connected cells incorporate circuitry to prevent operation of cells outside the limits specified by the cell manufacturer	Battery without selective discharge function.	N/A
	Protective circuit components are added as appropriate and consideration given to the end-device application		P
	The manufacturer of the battery provide a safety analysis of the battery safety circuitry with a test report including a fault analysis of the protection circuit under both charging and discharging conditions confirming the compliance		N/A
5.6.2	Design recommendation		P
	For the battery consisting of a single cell or a single cellblock, it is recommended that the charging voltage of the cell does not exceed the upper limit of the charging voltage specified in Table 2	1S1P, Max. charging voltage of component cell: 4.25V, not exceed 4.25V specified in Table 2.	P

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks, it is recommended that the voltages of any one of the single cells or single cellblocks does not exceed the upper limit of the charging voltage, specified in Table 2, by monitoring the voltage of every single cell or the single cellblocks		N/A
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks, it is recommended that charging is stopped when the upper limit of the charging voltage is exceeded for any one of the single cells or single cellblocks by measuring the voltage of every single cell or the single cellblocks		N/A
	For batteries consisting of series-connected cells or cell blocks, nominal charge voltage are not counted as an overcharge protection		N/A
	For batteries consisting of series-connected cells or cell blocks, cells have closely matched capacities, be of the same design, be of the same chemistry and be from the same manufacturer		N/A
	It is recommended that the cells and cell blocks are not discharged beyond the cell manufacturer's specified final voltage		P
	For batteries consisting of series-connected cells or cell blocks, cell balancing circuitry are incorporated into the battery management system		N/A
5.6.3	Mechanical protection for cells and components of batteries		P
	Mechanical protection for cells, cell connections and control circuits within the battery are provided to prevent damage as a result of intended use and reasonably foreseeable misuse		P
	The mechanical protection can be provided by the battery case or it can be provided by the end product enclosure for those batteries intended for building into an end product		N/A
	The battery case and compartments housing cells are designed to accommodate cell dimensional tolerances during charging and discharging as recommended by the cell manufacturer		N/A
	For batteries intended for building into a portable end product, testing with the battery installed within the end product is considered when conducting mechanical tests		N/A
5.7	**Quality plan**		P

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The manufacturer prepares and implements a quality plan that defines procedures for the inspection of materials, components, cells and batteries and which covers the whole process of producing each type of cell or battery	Complied. Quality system document and self-declaration document provided.	P
5.8	**Battery safety components**		N/A
6	**TYPE TEST AND SAMPLE SIZE**		P
	Tests are made with the number of cells or batteries specified in Table 1 using cells or batteries that are not more than six months old		P
	The internal resistance of coin cells are measured in accordance with Annex D. Coin cells with internal resistance less than or equal to 3 Ω are tested in accordance with Table 1	Not coin cells.	N/A
	Unless otherwise specified, tests are carried out in an ambient temperature of 20 °C ± 5 °C		P
	The safety analysis of 5.6.1 identify those components of the protection circuit that are critical for short-circuit, overcharge and over discharge protection		N/A
	When conducting the short-circuit test, consideration is given to the simulation of any single fault condition that is likely to occur in the protecting circuit that would affect the short-circuit test		P
7	**SPECIFIC REQUIREMENTS AND TESTS**		P
7.1	**Charging procedure for test purposes**		P
7.1.1	First procedure		P
	This charging procedure applies to subclauses other than those specified in 7.1.2		P
	Unless otherwise stated in this document, the charging procedure for test purposes is carried out in an ambient temperature of 20 °C ± 5 °C, using the method declared by the manufacturer		P
	Prior to charging, the battery has been discharged at 20 °C ± 5 °C at a constant current of 0,2 It A down to a specified final voltage		P
7.1.2	Second procedure		P
	This charging procedure applies only to 7.3.1, 7.3.4, 7.3.5, and 7.3.9		P

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	After stabilization for 1 h to 4 h, at an ambient temperature of the highest test temperature and the lowest test temperature, respectively, as specified in Table 2, cells are charged by using the upper limit charging voltage and maximum charging current, until the charging current is reduced to 0,05 It A, using a constant current to constant voltage charging method	Highest test temperature: 45°C Lowest test temperature: 0°C	P
7.2	**Intended use**		P
7.2.1	Continuous charging at constant voltage (cells)		P
	Fully charged cells are subjected for 7 days to a charge using the charging method for current and standard voltage specified by the cell manufacturer		P
	Results: no fire, no explosion, no leakage .....:	(See appended table 7.2.1)	P
7.2.2	Case stress at high ambient temperature (battery)	Test for reference.	P
	Oven temperature (°C) .....:	70	—
	Results: no physical distortion of the battery case resulting in exposure of internal protective components and cells		P
7.3	**Reasonably foreseeable misuse**		P
7.3.1	External short-circuit (cell)		P
	The cells were tested until one of the following occurred:		P
	- 24 hours elapsed; or		N/A
	- The case temperature declined by 20 % of the maximum temperature rise		P
	Results: no fire, no explosion .....:	(See appended table 7.3.1)	P
7.3.2	External short-circuit (battery)		P
	The batteries were tested until one of the following occurred:		P
	- 24 hours elapsed; or		N/A
	- The case temperature declined by 20 % of the maximum temperature rise		N/A
	In case of rapid decline in short circuit current, the battery pack remained on test for an additional one hour after the current reached a low end steady state condition		P
	A single fault in the discharge protection circuit is conducted on one to four (depending upon the protection circuit) of the five samples before conducting the short-circuit test	Single fault conducted on four samples.	P

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	A single fault applies to protective component parts such as MOSFET (metal oxide semiconductor field-effect transistor), fuse, thermostat or positive temperature coefficient (PTC) thermistor	(See appended table 7.3.2)	P
	Results: no fire, no explosion .....:	(See appended table 7.3.2)	P
7.3.3	Free fall		P
	Results: no fire, no explosion		P
7.3.4	Thermal abuse (cells)		P
	Oven temperature (°C) .....:	130	—
	Results: no fire, no explosion		P
7.3.5	Crush (cells)		P
	The crushing force was released upon:		P
	- The maximum force of 13 kN ± 0,78 kN has been applied; or		P
	- An abrupt voltage drop of one-third of the original voltage has been obtained		N/A
	Results: no fire, no explosion .....:	(See appended table 7.3.5)	P
7.3.6	Over-charging of battery		P
	The supply voltage which is:		P
	- 1,4 times the upper limit charging voltage presented in Table A.1 (but not to exceed 6,0 V) for single cell/cell block batteries or	5.95V applied.	P
	- 1,2 times the upper limit charging voltage resented in Table A.1 per cell for series connected multi-cell batteries, and		N/A
	- Sufficient to maintain a current of 2,0 It A throughout the duration of the test or until the supply voltage is reached		P
	Test was continued until the temperature of the outer casing:		P
	- Reached steady state conditions (less than 10 °C change in 30-minute period); or		P
	- Returned to ambient		N/A
	Results: no fire, no explosion .....:	(See appended table 7.3.6)	P
7.3.7	Forced discharge (cells)		P
	Discharge a single cell to the lower limit discharge voltage specified by the cell manufacturer		P
	The discharged cell is then subjected to a forced discharge at 1 It A to the negative value of the upper limit charging voltage		P

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- The discharge voltage reaches the negative value of upper limit charging voltage within the testing duration. The voltage is maintained at the negative value of the upper limit charging voltage by reducing the current for the remainder of the testing duration		N/A
	- The discharge voltage does not reach the negative value of upper limit charging voltage within the testing duration. The test is terminated at the end of the testing duration		P
	Results: no fire, no explosion .....:	(See appended table 7.3.7)	P
7.3.8	Mechanical tests (batteries)		P
7.3.8.1	Vibration		P
	Results: no fire, no explosion, no rupture, no leakage or venting.....:	(See appended table 7.3.8.1)	P
7.3.8.2	Mechanical shock		P
	Results: no leakage, no venting, no rupture, no explosion and no fire.....:	(See appended table 7.3.8.2)	P
7.3.9	Design evaluation – Forced internal short-circuit (cells)		P
	The cells complied with national requirement for ..... :	France, Japan, Korea, Switzerland	—
	The pressing was stopped upon:		P
	- A voltage drop of 50 mV has been detected; or		N/A
	- The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) has been reached	800N for cylindrical cells.	P
	Results: no fire .....:	(See appended table 7.3.9)	P
8	**INFORMATION FOR SAFETY**		P
8.1	**General**		P
	Manufacturers of secondary cells provides information about current, voltage and temperature limits of their products	Information for safety mentioned in manufacturer’s specifications.	P
	Manufacturers of batteries provides information regarding how to minimize and mitigate hazards to equipment manufacturers or end-users	Information for safety mentioned in manufacturer’s specifications.	P
	Systems analyses are performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product	Considered in end product.	N/A
	As appropriate, any information relating to hazard avoidance resulting from a system analysis is provided to the end user	Considered in end product.	N/A

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Do not allow children to replace batteries without adult supervision		N/A
8.2	**Small cell and battery safety information**	Not small cell and battery.	N/A
	The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them:		N/A
	- Keep small cells and batteries which are considered swallowable out of the reach of children		N/A
	- Swallowing may lead to burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion		N/A
	- In case of ingestion of a cell or battery, seek medical assistance promptly		N/A
9	**MARKING**		P
9.1	**Cell marking**		N/A
	Cells are marked as specified in IEC 61960, except coin cells		N/A
	Coin cells whose external surface area is too small to accommodate the markings on the cells show the designation and polarity	Not coin cells.	N/A
	By agreement between the cell manufacturer and the battery and/or end product manufacturer, component cells used in the manufacture of a battery need not be marked		N/A
9.2	**Battery marking**		P
	Batteries are marked as specified in IEC 61960, except for coin batteries	IEC 61960-3:2017 Designation: 1INR19/66	P
	Coin batteries whose external surface area is too small to accommodate the markings on the batteries show the designation and polarity	Not coin batteries.	N/A
	Batteries are marked with an appropriate caution statement		P
	- Terminals have clear polarity marking on the external surface of the battery, or		N/A
	- Not be marked with polarity markings if the design of the external connector prevents reverse polarity connections		P
9.3	**Caution for ingestion of small cells and batteries**		N/A
	Coin cells and batteries identified as small batteries include a caution statement regarding the hazards of ingestion in accordance with 8.2	Not coin cells and batteries.	N/A

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion is given on the immediate package		N/A
9.4	**Other information**		P
	The following information are marked on or supplied with the battery:		P
	- Storage and disposal instructions	Information for storage and disposal instructions in manufacturer's specifications.	P
	- Recommended charging instructions	Information for recommended charging instructions in manufacturer's specifications.	P
10	**PACKAGING AND TRANSPORT**		P
	Packaging for coin cells are not be small enough to fit within the limits of the ingestion gauge of Figure 3	Not coin cells.	N/A
ANNEX A	**CHARGING AND DISCHARGING RANGE OF SECONDARY LITHIUM ION CELLS FOR SAFE USE**		P
A.1	**General**		P
A.2	**Safety of lithium ion secondary battery**	Complied.	P
A.3	**Consideration on charging voltage**	Complied.	P
A.3.1	General		P
A.3.2	Upper limit charging voltage	4.25V applied.	P
A.3.2.1	General		P
A.3.2.2	Explanation of safety viewpoint		P
A.3.2.3	Safety requirements, when different upper limit charging voltage is applied		N/A
A.4	**Consideration of temperature and charging current**		P
A.4.1	General		P
A.4.2	Recommended temperature range	Charging temperature declared by client is: 0-45°C.	P
A.4.2.1	General		P
A.4.2.2	Safety consideration when a different recommended temperature range is applied		P
A.4.3	High temperature range		N/A
A.4.3.1	General		N/A
A.4.3.2	Explanation of safety viewpoint		N/A

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
A.4.3.3	Safety considerations when specifying charging conditions in the high temperature range		N/A
A.4.3.4	Safety considerations when specifying a new upper limit in the high temperature range		N/A
A.4.4	Low temperature range		N/A
A.4.4.1	General		N/A
A.4.4.2	Explanation of safety viewpoint		N/A
A.4.4.3	Safety considerations, when specifying charging conditions in the low temperature range		N/A
A.4.4.4	Safety considerations when specifying a new lower limit in the low temperature range		N/A
A.4.5	Scope of the application of charging current		P
A.4.6	Consideration of discharge		P
A.4.6.1	General		P
A.4.6.2	Final discharge voltage and explanation of safety viewpoint	Cell specified final voltage is 2.5V.	P
A.4.6.3	Discharge current and temperature range		P
A.4.6.4	Scope of application of the discharging current		P
A.5	**Sample preparation**		P
A.5.1	General		P
A.5.2	Insertion procedure for nickel particle to generate internal short		P
A.5.3	Disassembly of charged cell		P
A.5.4	Shape of nickel particle		P
A.5.5	Insertion of nickel particle in cylindrical cell		P
A.5.5.1	Insertion of nickel particle in winding core		P
A.5.5.2	Marking the position of the nickel particle on both ends of the winding core of the separator		P
A.5.6	Insertion of nickel particle in prismatic cell		N/A
A.6	**Experimental procedure of the forced internal short-circuit test**		P
A.6.1	Material and tools for preparation of nickel particle		P
A.6.2	Example of a nickel particle preparation procedure		P
A.6.3	Positioning (or placement) of a nickel particle		P
A.6.4	Damaged separator precaution		P
A.6.5	Caution for rewinding separator and electrode		P
A.6.6	Insulation film for preventing short-circuit		P
A.6.7	Caution when disassembling a cell		P

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Clause	Requirement + Test	Result - Remark	Verdict
A.6.8	Protective equipment for safety		P
A.6.9	Caution in the case of fire during disassembling		P
A.6.10	Caution for the disassembling process and pressing the electrode core		P
A.6.11	Recommended specifications for the pressing device		P
ANNEX B	**RECOMMENDATIONS TO EQUIPMENT MANUFACTURERS AND BATTERY ASSEMBLERS**		P
ANNEX C	**RECOMMENDATIONS TO THE END-USERS**		N/A
ANNEX D	**MEASUREMENT OF THE INTERNAL AC RESISTANCE FOR COIN CELLS**		N/A
D.1	**General**	Not coin cells.	N/A
D.2	**Method**		N/A
	A sample size of three coin cells is required for this measurement		N/A
	Coin cells with an internal resistance greater than 3 Ω require no further testing .....:		N/A
	Coin cells with an internal resistance less than or equal to 3 Ω are subjected to the testing according to Clause 6 and Table 1		N/A
ANNEX E	**PACKAGING AND TRANSPORT**		P
ANNEX F	**COMPONENT STANDARDS REFERENCES**		N/A

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

7.2.1	TABLE: Continuous charging at constant voltage (cells)	P

Sample No.	Recommended charging voltage Vc (Vdc)	Recommended charging current I_{rec} (A)	OCV before test (Vdc)	Results
C01#	4.20	1.0	4.183	A, B
C02#	4.20	1.0	4.184	A, B
C03#	4.20	1.0	4.184	A, B
C04#	4.20	1.0	4.184	A, B
C05#	4.20	1.0	4.183	A, B

Supplementary information:

A - No fire or explosion
B - No leakage
C - Others (please explain)

7.3.1	TABLE: External short circuit (cell)	P

Sample No.	Ambient (°C)	OCV at start of test (Vdc)	Resistance of circuit (mΩ)	Maximum case temperature rise ΔT (K)	Results
Samples charged at charging temperature upper limit (45°C)					
C06#	56.2	4.228	80	74.1	A, B
C07#	56.2	4.220	82	71.8	A, B
C08#	56.2	4.221	79	75.8	A, B
C09#	56.2	4.223	79	73.1	A, B
C10#	56.2	4.227	80	75.1	A, B
Samples charged at charging temperature lower limit (0°C)					
C11#	57.0	4.153	80	74.5	A, B
C12#	57.0	4.158	81	67.9	A, B
C13#	57.0	4.153	81	64.3	A, B
C14#	57.0	4.153	79	77.5	A, B
C15#	57.0	4.156	81	69.6	A, B

Supplementary information:

A - No fire or explosion
B - The test was completed after the cell casing declines by 20% of the maximum temperature rise.

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

7.3.2	TABLE: External short circuit (battery)					P
Sample No.	**Ambient T (°C)**	**OCV before test (Vdc)**	**Resistance of circuit (mΩ)**	**Maximum case temperature rise ΔT (K)**	**Component single fault condition**	**Results**
B04#	23.0	4.187	79	0.3	Normal	A, D
B05#	23.0	4.185	81	0.6	Short circuit MOSFET (U2)	A, D
B06#	23.0	4.186	85	1.6	Short circuit MOSFET (U2)	A, D
B07#	23.0	4.184	82	1.3	Short circuit PTC (F1)	A, D
B08#	23.0	4.183	83	0.7	Short circuit PTC (F1)	A, D

Supplementary information:

A - No fire or explosion

B - The test ends after 24 hours

C - The case temperature declined by 20% of the maximum temperature rise

D - Rapid decline in short circuit current, the battery pack should remain on test for an additional one hour after the current reaches a low end steady state condition.

Fault condition: MOSFET (U2) Pin 3 to Pin 6 short circuit.

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

7.3.5	TABLE: Crush (cells)			P
Sample No.	**OCV before test (Vdc)**	**OCV at removal of crushing force (Vdc)**	**Maximum force applied to the cell during crush (kN)**	**Results**
Samples charged at charging temperature upper limit (45°C)				
C29#	4.223	4.221	13.02	A, B
C30#	4.227	4.226	13.02	A, B
C31#	4.221	4.220	13.01	A, B
C32#	4.221	4.221	13.03	A, B
C33#	4.226	4.223	13.03	A, B
Samples charged at charging temperature lower limit (0°C)				
C34#	4.155	4.153	13.02	A, B
C35#	4.157	4.155	13.06	A, B
C36#	4.152	4.150	13.03	A, B
C37#	4.153	4.153	13.01	A, B
C38#	4.158	4.157	13.03	A, B

Supplementary information:

A - No fire or explosion

B - Force released after maximum force reached.

7.3.6	TABLE: Over-charging of battery			P
Constant charging current (A) .....:		4.0		—
Supply voltage (Vdc) .....:		5.95		—
Sample No.	**OCV before charging (Vdc)**	**Total charging time (minute)**	**Maximum outer case temperature (°C)**	**Results**
B12#	3.239	236	24.4	A, B
B13#	3.228	236	24.6	A, B
B14#	3.238	236	23.8	A, B
B15#	3.232	236	24.1	A, B
B16#	3.248	236	24.6	A, B

Supplementary information:

A - No fire or explosion

B - The test was continued until the temperature of the outer casing reached steady state conditions.

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

7.3.7	TABLE: Forced discharge (cells)	P

Sample No.	OCV before application of reverse charge (Vdc)	Measured reverse charge I_t (A)	Lower limit discharge voltage (Vdc)	Results
C39#	3.232	2.0	2.5	A, B
C40#	3.228	2.0	2.5	A, B
C41#	3.224	2.0	2.5	A, B
C42#	3.217	2.0	2.5	A, B
C43#	3.247	2.0	2.5	A, B

Supplementary information:

A - No fire or explosion

B - The voltage did not reach negative value of upper limit charging voltage.

7.3.8.1	TABLE: Vibration	P

Sample No.	OCV before test (Vdc)	OCV after test (Vdc)	Mass before test (g)	Mass after test (g)	Results
B17#	4.179	4.178	44.549	44.546	A, B, C, D
B18#	4.186	4.186	44.336	44.335	A, B, C, D
B19#	4.185	4.184	44.621	44.619	A, B, C, D

Supplementary information:

A - No fire or explosion
B - No rupture
C - No leakage
D - No venting
E - Others (please explain)

7.3.8.2	TABLE: Mechanical shock	P

Sample No.	OCV before test (Vdc)	OCV after test (Vdc)	Mass before test (g)	Mass after test (g)	Results
B20#	4.183	4.182	45.189	45.187	A, B, C, D
B21#	4.185	4.184	45.185	45.184	A, B, C, D
B22#	4.181	4.181	45.299	45.298	A, B, C, D

Supplementary information:

A - No fire or explosion
B - No rupture
C - No leakage
D - No venting
E - Others (please explain)

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

7.3.9	TABLE: Forced internal short circuit (cells)				P
Sample No.	**Chamber ambient T (°C)**	**OCV before test (Vdc)**	**Particle location 1)**	**Maximum applied pressure (N)**	**Results**
Samples charged at charging temperature upper limit (45°C)					
C44#	45	4.226	1	800	A, B
C45#	45	4.222	1	800	A, B
C46#	45	4.223	1	800	A, B
C47#	45	4.228	1	800	A, B
C48#	45	4.224	1	800	A, B
Samples charged at charging temperature lower limit (0°C)					
C49#	0	4.151	1	800	A, B
C50#	0	4.156	1	800	A, B
C51#	0	4.152	1	800	A, B
C52#	0	4.158	1	800	A, B
C53#	0	4.155	1	800	A, B

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.

Remark: There is no particle location 2 in this product.

A - No fire

B - Test concluded when 800N pressure was reached, and 50mV voltage drop was not achieved.

D.2	TABLE: Internal AC resistance for coin cells			N/A
Sample no.	**Ambient T (°C)**	**Store time (h)**	**Resistance Rac (Ω)**	**Results 1)**

Supplementary information:

1) Coin cells with an internal resistance less than or equal to 3 Ω, see test result on corresponding tables according to Clause 6 and Table 1.

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Critical components information				**P**
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
1. Cell		18650S20	3.7V, 2000mAh	IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021	Tested with appliance
-Electrolyte	Hunan Dajing Co., Ltd.	FJ020	$LiPF_6$+DMC+DEC+EC	--	--
-Separator	Liaoyuan Hongtu Technology Co., Ltd	16μm	Material: PE, Thickness: 16μm, Shutdown temperature: 130°C	--	--
-Positive electrode	Yixin Huineng Co., Ltd.	TL510	Material: $LiNi_xCo_yMn_zO_2$, x:y:z=5:2:3	--	--
-Negative electrode	Shenzhen Xin mao Co., Ltd.	X20C	Material: Graphite	--	--
2. PCB	Shen Zhen Fu Jin Hui Electric Circuit Co Ltd	FH-M	130°C, V-0	UL 94 UL 796	UL E504499
2.1 PCB (Alternative)	Interchangeable	Interchangeable	130°C, V-0	UL 94 UL 796	UL Approved
3. IC (U1)	Dongguan Baiqiang power technology Co., Ltd.	DW01	Overcharge detection voltage: 4.28V ± 0.05V, Overdischarge detection voltage: 2.40V ± 0.10V, T_{opr}: -40°C ~ +85°C	--	Tested with appliance
4. MOSFET (U2)	Dongguan Baiqiang power technology Co., Ltd.	8205A	V_{DS}: 20V, V_{GS}: ±12V, I_D: 6A (T_J=25°C), T_J, T_{STG}: -55°C to 150°C	--	Tested with appliance
5. PTC (F1)	DONGGUAN TLC ELECTRONIC TECHNOLOGY CO LTD	TLC-PSML260	I_h: 2.6A (25°C), I_t: 5.2A (25°C), V_{max}: 6V, I_{max}: 50A, T_{moa}: 85°C	UL 1434	UL E352136
6. Wire	DONGGUAN ZHONGZHENG WIRE & CABLE TECH CO LTD	1007	26AWG, 80°C, 300Vac	UL 758	UL E336285
6.1 Wire (Alternative)	Interchangeable	Interchangeable	26AWG minimum, Min. 80°C, Min. 300Vac	UL 758	UL Approved
7. Plastic for connector	FORMOSA CHEMICALS & FIBRE CORP PLASTICS DIV	AC310M	V-0, 85°C	UL 94 UL 746C	UL E162823
7.1 Plastic for connector (Alternative)	Interchangeable	Interchangeable	V-0, 85°C	UL 94 UL 746C	UL Approved

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-2039.

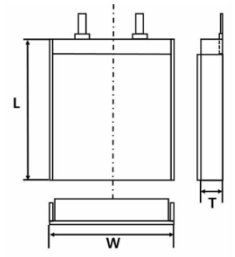
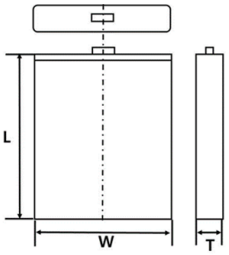
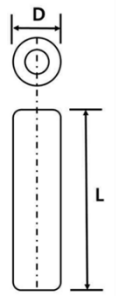
2) The CBTL has verified the component information.

3) License available upon request.

Report No.: TSZ25EF010A02-01

ATTACHMENT to IEC62133_2C			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT **IEC 62133-2** **(Republic of Korea) NATIONAL DIFFERENCES** (Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary lithium cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems)			
Differences according to.....:	National standard KC62133-2(2020-07)		
TRF template used: .....:	IECEE OD-2020-F3:2022, Ed. 1.2		
Attachment Form No.....:	KR_ND_IEC62133_2C		
Attachment Originator .....:	KTR		
Master Attachment.....:	2023-08-02		
	National Differences		P
7.3.6	**Over-charging of battery**		N/A
(Revision)	***[Add the bolded text]*** b) Test The test shall be carried out in an ambient temperature of 20 °C ± 5 °C. Each test battery shall be discharged at a constant current of 0,2 I_t A, to a final discharge voltage specified by the manufacturer. Sample batteries shall then be charged at a constant current of 2,0 I_t A, using a supply voltage which is: • 1,4 times the upper limit charging voltage presented in Table A.1 (but not to exceed 6,0 V) for single cell/cell block batteries or • 1,2 times the upper limit charging voltage presented in Table A.1 per cell for series connected multi-cell batteries, and • sufficient to maintain a current of 2,0 I_t A throughout the duration of the test or until the supply voltage is reached. **• In case the charging voltage specified by the manufacturer is higher than the overcharge test voltage, the maximum charging voltage specified by manufacturer should be applied with 2.**0 I_t A**,** **(e.g., quick charging power bank, etc.)**		N/A

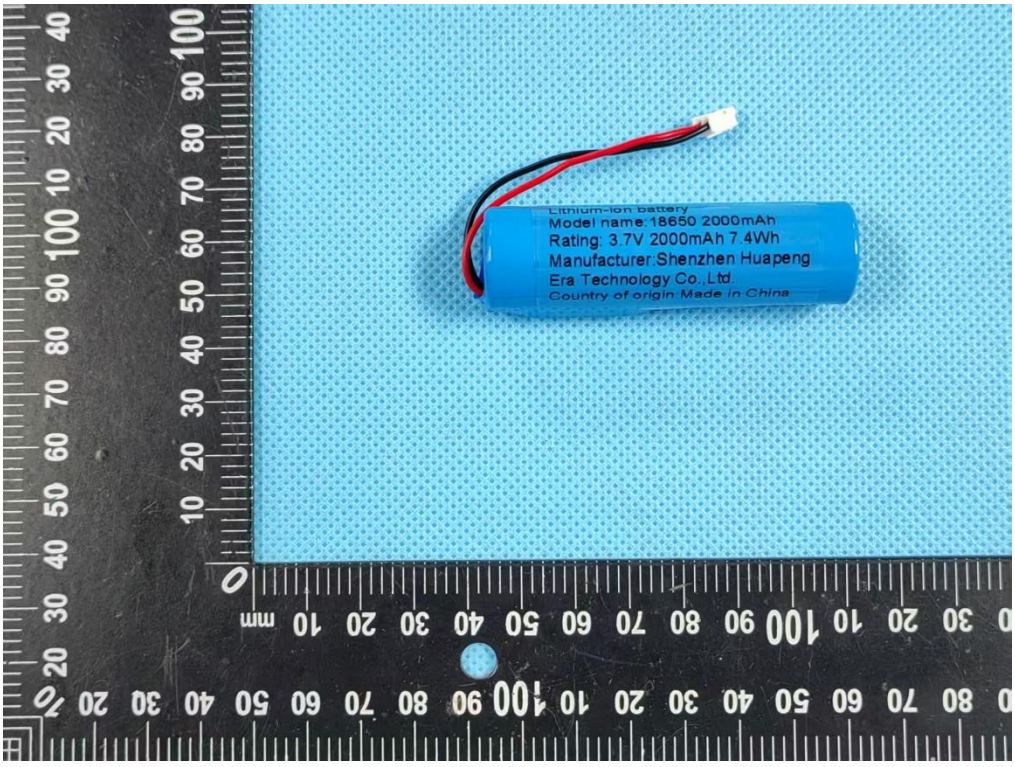
ATTACHMENT to IEC62133_2C			
Clause	Requirement + Test	Result - Remark	Verdict
	[Replace to the following statement] c) Acceptance criteria Filling beyond the manufacturer's specified limits should not result in ignition or explosion		N/A
Annex G	**Definition for shape and materials of outer case for cell**		—
(Addition)	G.1 General Annex G provides definitions for shape and materials of outer case for cell G.2 Shape of outer case for cell G 2.1 Cylindrical cell Cell with a cylindrical shape in which the overall height is equal to or greater than diameter. G 2.2 Prismatic cell Cell having the shape of a parallelepiped whose faces are rectangular G.3 Materials of outer case for cell G.3.1 Soft case Non-metallic outer case or container for cell G.3.2 Hard case Metallic outer case or container for cell.	(Shape of outer cases) ☒ Cylindrical ☐ Prismatic (Materials of outer cases) ☒ Hard ☐ Soft	—
Annex H	**Calculation method of the volumetric energy density for cell**		—
(Addition)	Annex H provide a calculation method of the volumetric energy density for cell in use of smart phone, tablet, notebook. H.1 General Unless otherwise stated in the Annex E, the dimensions for calculation are based on these for cell before shipment and the volumetric energy density shall be calculated with a maximum values specified by manufacturer. If the specification for cell can't be provided a dimension for calculation, the manufacturer's other documentation shall be provided to demonstrate compliance for its calculation.	415.791Wh / L	—

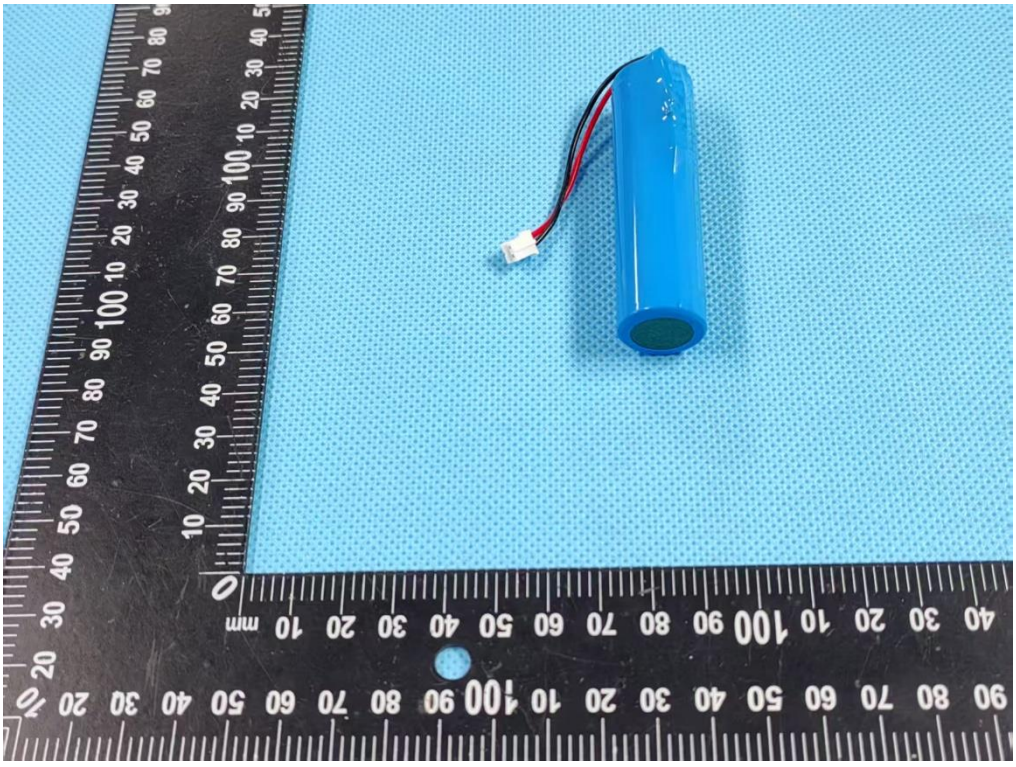
ATTACHMENT to IEC62133_2C			
Clause	Requirement + Test	Result - Remark	Verdict
	H.2 Calculation Method  L : Length (max.) of cell (including terrace) W : Width (max.) of cell T : Thickness (max.) when shipping charge (For reference, Please Exclude the dimension of any tape that Is attached to cell) $Volumetric\ energy\ density\ (Wh/L) = \frac{Nominal\ voltage\ (V) \times Rated\ capacity\ (Ah)}{Length\ (L) \times Width\ (W)\ \times Thickness\ (T)}$ [H.1 – Prismatic cell using soft case]  L : Length (max.) of cell W : Width (max.) of cell T : Thickness when shipping charge (For reference, Please Exclude the dimension of any tape that Is attached to cell) $Volumetric\ energy\ density\ (Wh/L) = \frac{Nominal\ voltage\ (V) \times Rated\ capacity\ (Ah)}{Length\ (L) \times Width\ (W)\ \times Thickness\ (T)}$ [H.2 – Prismatic cell using hard case]  D : Diameter (max.) of cell L : Length (max.) of cell (According to shape of cell at shipping, The dimension of tube for cell may be included In overall dimension of cell) $Volumetric\ energy\ density\ (Wh/L) = \frac{Nominal\ voltage\ (V) \times Rated\ capacity\ (Ah)}{3.14159 \times \frac{Diameter\ (D)^2}{4} \times Length(L)}$ [H.3 – Cylindrical cell using hard case]	—	

ENCLOSURES

Supplement ID	Description
01	Overall view of Lithium-ion battery, Model 18650 2000mAh
02	Internal view of Lithium-ion battery, Model 18650 2000mAh
03	PWB of Lithium-ion battery, Model 18650 2000mAh
04	Overall view of Lithium-ion Rechargeable Cell, Model 18650S20
05	PWB layout of Lithium-ion battery, Model 18650 2000mAh
06	Schematic diagram of Lithium-ion battery, Model 18650 2000mAh
07	Dimensional drawing for Lithium-ion Rechargeable Cell, Model 18650S20
08	Dimensional drawing for Lithium-ion battery, Model 18650 2000mAh
09-01, 09-02	Safety information and instruction for Lithium-ion battery, Model 18650 2000mAh

ID 01


Lithium-ion battery
Model name:18650 2000mAh
Rating: 3.7V 2000mAh 7.4Wh
Manufacturer:Shenzhen Huapeng
Era Technology Co.,Ltd.
Country of origin:Made in China



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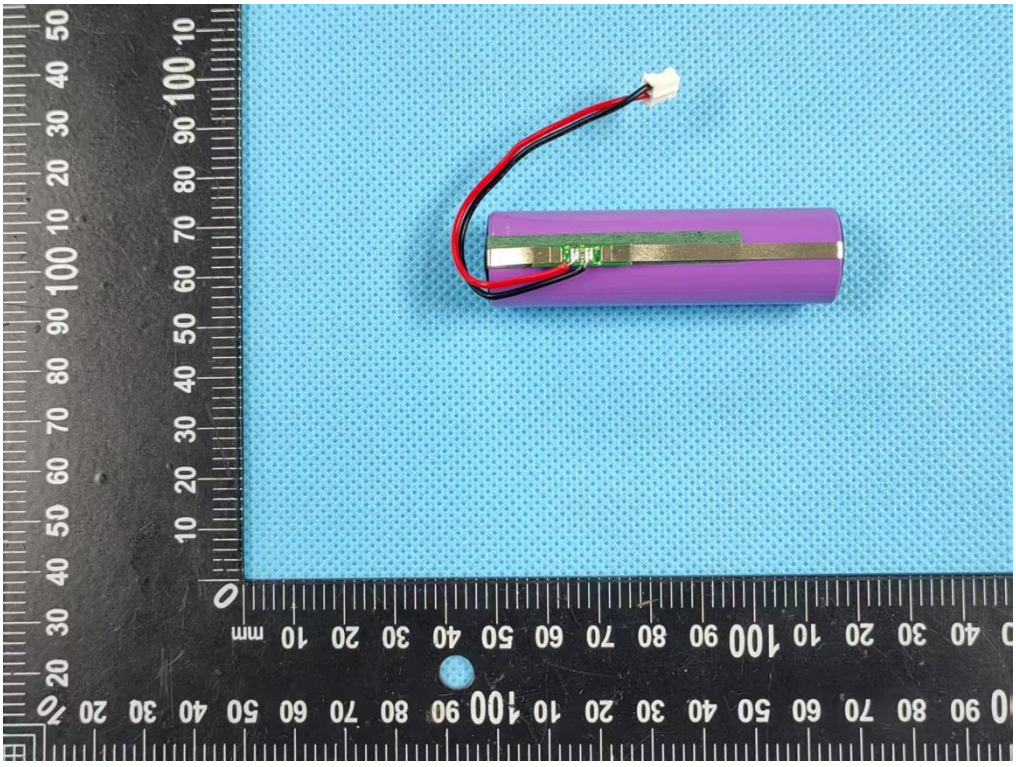

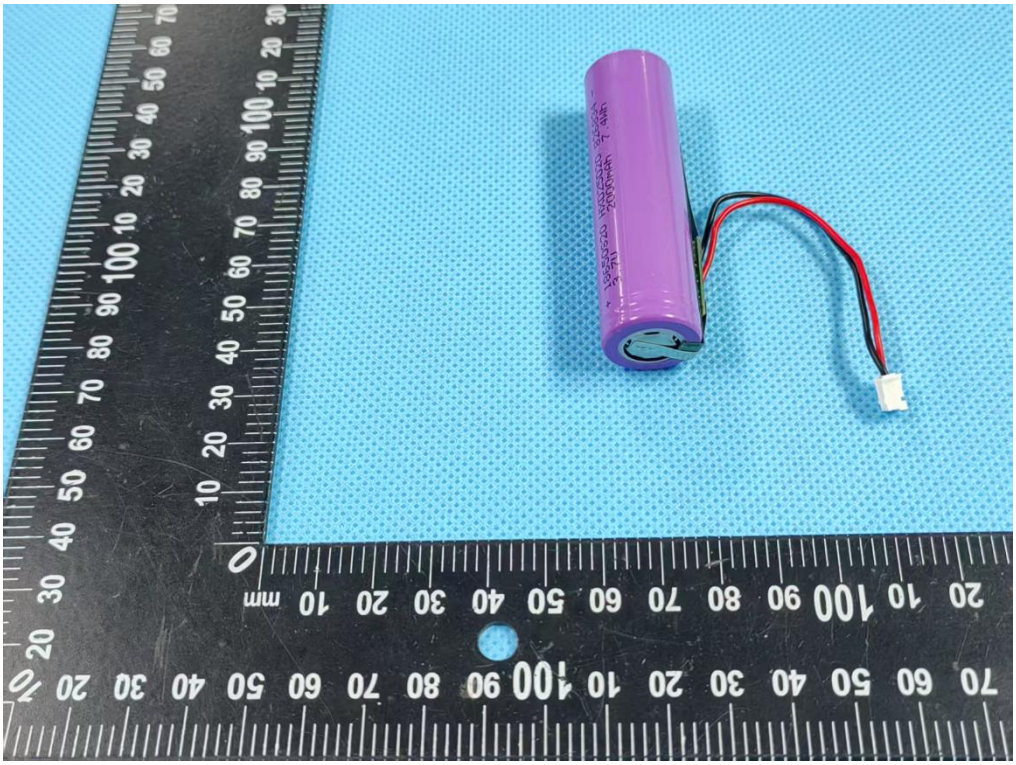

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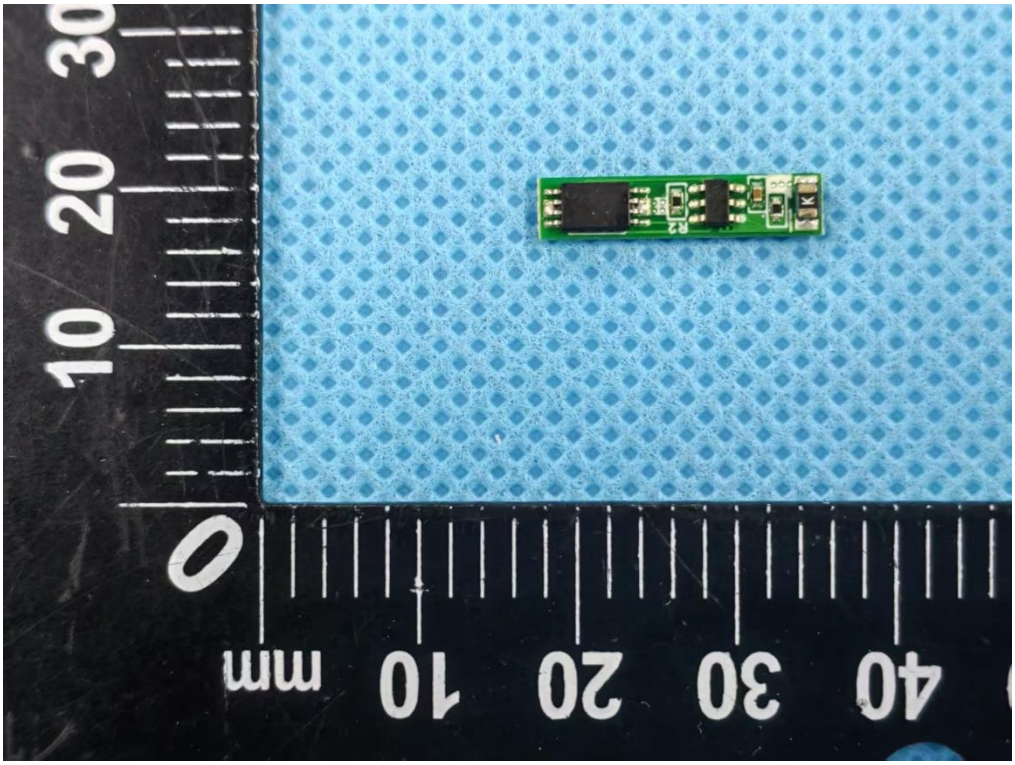

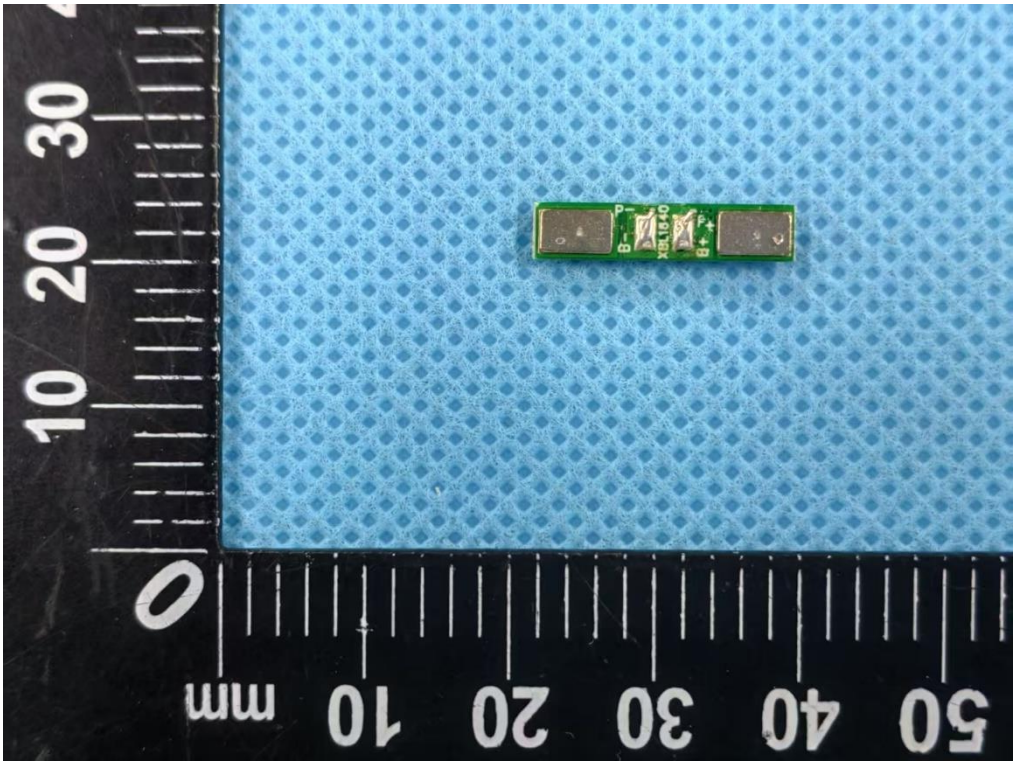

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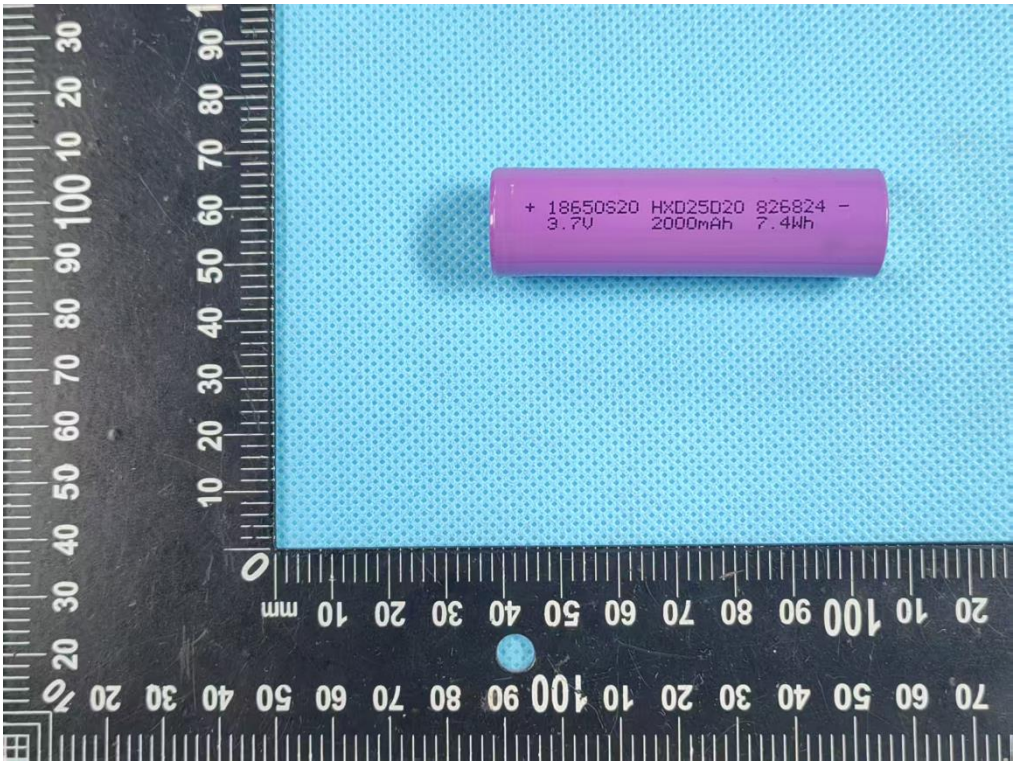
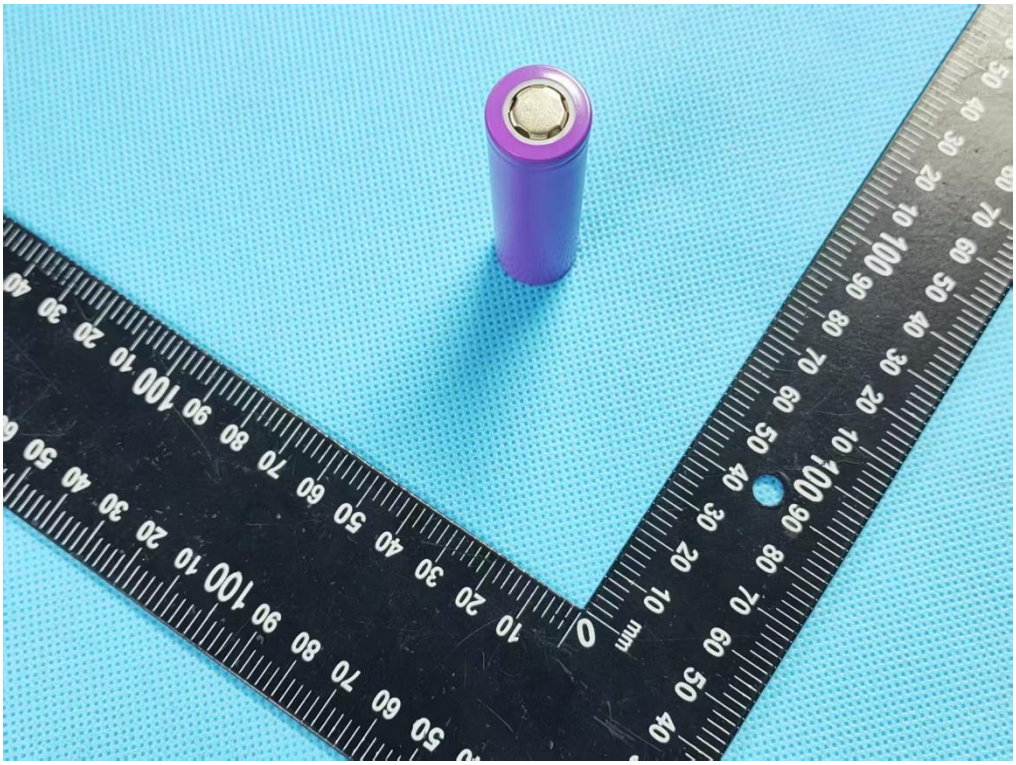
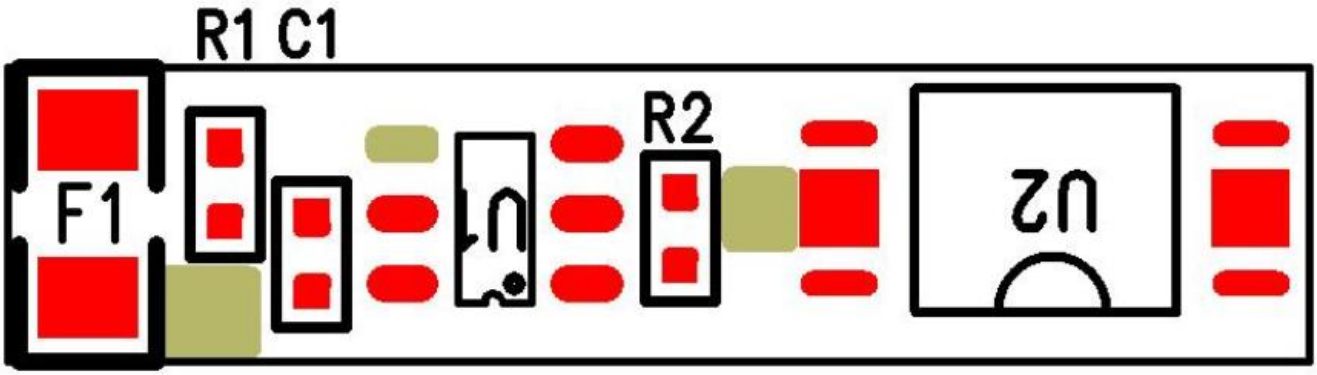
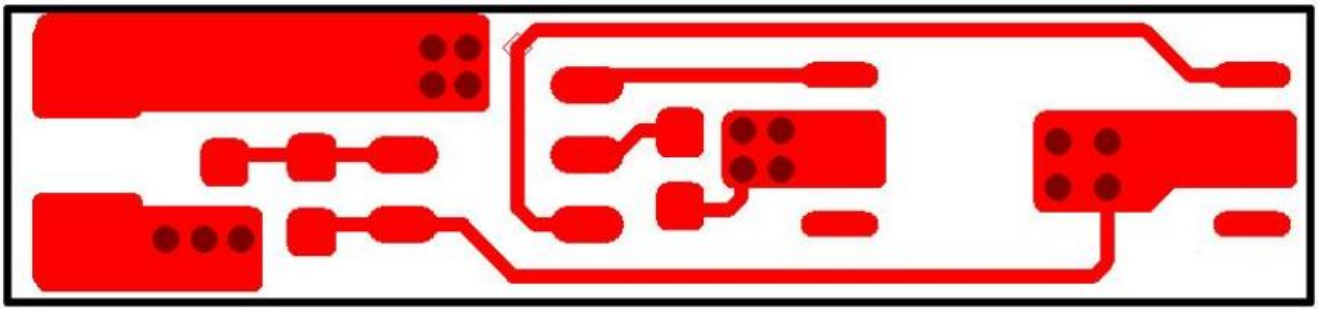




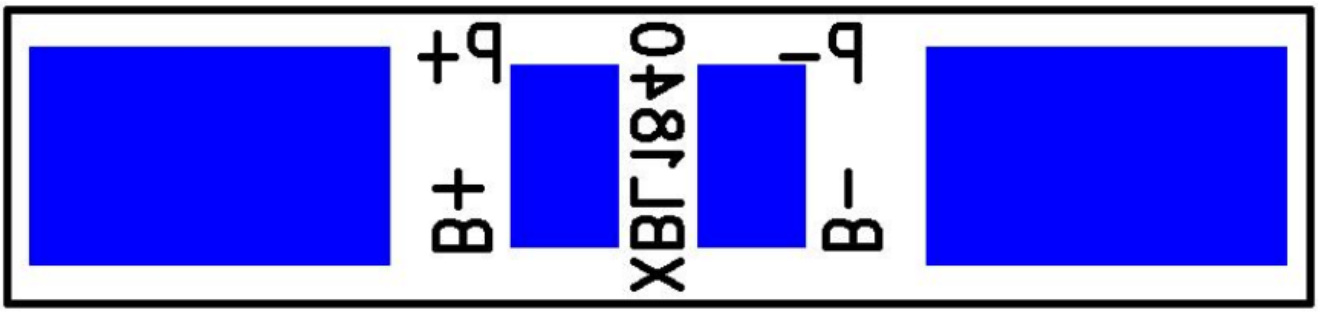
ID 05



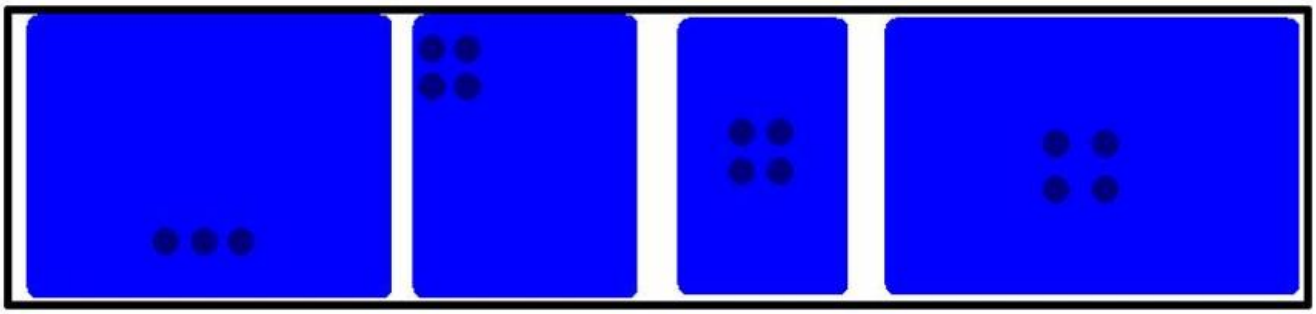
TOP SILKSCREEN



TOP SIDE

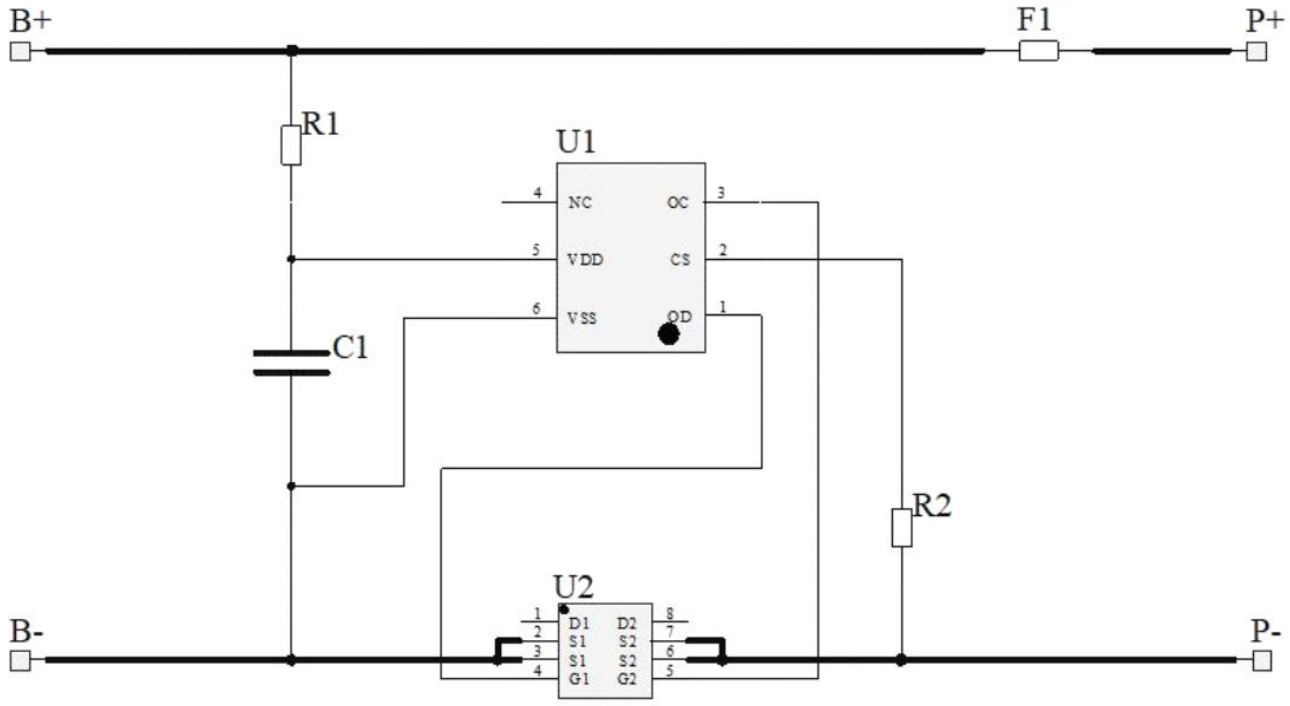


BOTTOM SILKSCREEN

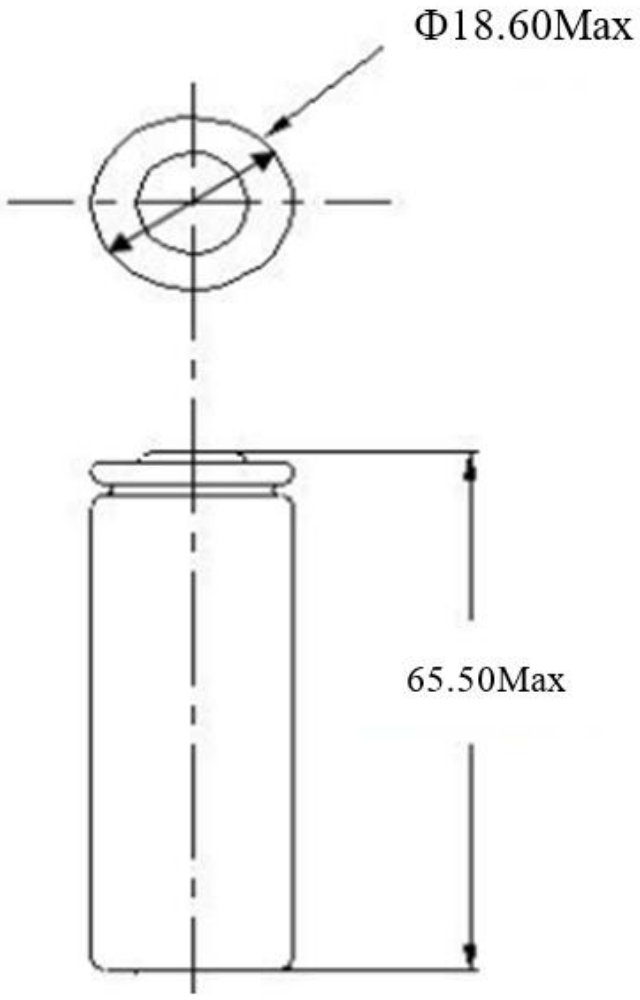


BOTTOM SIDE

ID 06

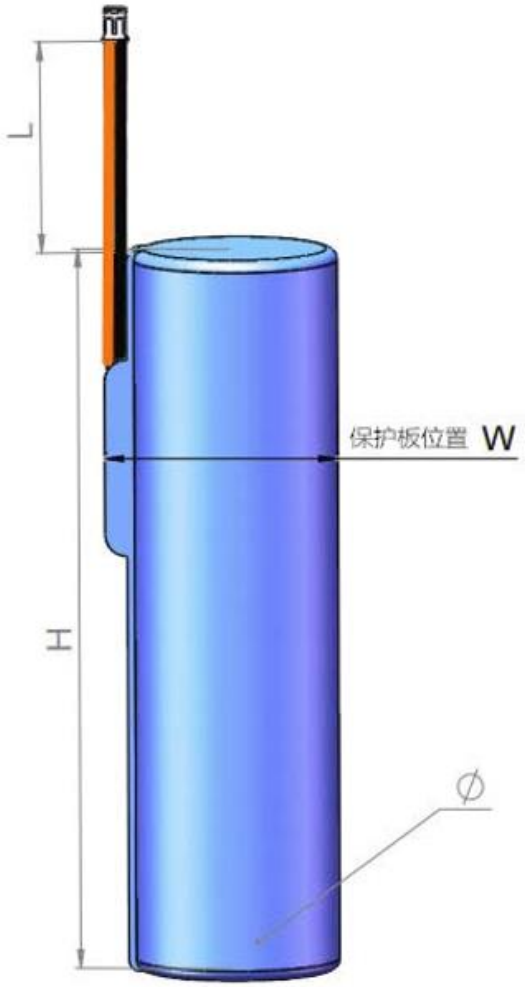

B+
F1
P+
R1
U1
4
NC
OC
3
5
VDD
CS
2
6
VSS
OD
1
C1
R2
U2
1
D1
D2
8
2
S1
S2
7
3
S1
S2
6
4
G1
G2
5
B-
P-

ID 07



Cell (Unit: mm)

ID 08



Φ	W	H
20.0 Max.	23.0 Max.	67.0 Max.

Battery (Unit: mm)

12. Battery Handling Precautions 电池使用注意事项

◆ Don't immerse battery in water or allow it to get wet!

勿将电池投入水中或将其浸湿！

◆ Don't charge, use and store battery near a heat source such as fire heater! If the battery leaks or releases strange odor, pls remove it from place near fire place immediately. Fully charge the battery before first-time using.

禁止在火源或极热条件下给电池充电！勿在热源(如火或加热器)附件使用或者储存电池！如果电池泄露或者发出异味，应立即将其从接近明火出移开。第一次使用电池，需将电池充满电后再使用。

◆ Don't reverse the positive and negative pole of battery!

禁止将电池的正负极输出端接反！

◆ Don't throw the battery into fire or heat it!

禁止将电池投入火中或者给电池加热！

◆ Don't short-circuit battery with wire or other metal objects!

禁止用导线或者其他金属物体将电池正负极短路连接！

◆ Don't nail, knock or trample the battery!

禁止用钉子或者其他尖锐物体刺穿电池外壳，禁止锤击或者脚踏电池！

◆ Don't disassemble the battery in any way!

禁止以任何方式分解电池！

◆ Don't put the battery into microwave oven or pressure vessel!

禁止将电池置于微波炉或者压力容器中！

◆ Ambient temperature will affect the discharge capacity of battery, if the ambient temperature is beyond the standard environment (23±2℃), the discharge capacity will be changed.

环境温度会影响电池放电容量，环境温度超过标准环境时(23±2℃)，电池放电容量会发生改变。

◆ The pack should be stored at room temperature，charged to about 40% to 60% of capacity。In case of over-dischareg，pack should be charged for one time every 3 months while storing and batteries should be discharge and charge after being stored more than 6 months in order to activate and restore energy。

电池组应当在合适的室温下存放，应充到 40%至 60%的电量。为防止电池过放，建议每 3 个月进行一次充电，如储存时间超过 6 个月，建议每 6 个月进行一次充、放电以激活电池。

14. 警告 Warning

◆ 超出规定的充电时间时，应停止充电。

◆ Stop charging the cell if charging is not completed within the specified time。

◆ 在使用，充电或存贮过程中发现有异常发热，有气味，变色，变形的情况，应停止使用。

◆ Stop using the cell if abnormal heat, odor, discoloration, deformation or abnormal condition is detected during use, charge, or storage。

◆ 假如发现电池漏液或有异味，应立即远离。

◆ Keep away from cell immediately when leakage or foul odor is detected。

◆ 假如电池漏液粘在皮肤或衣物上，请立即用清水冲洗。

◆ Wash well with clean water immediately if liquid leaks onto your skin or clothes。

◆ 如果电池发生泄露,电解液进入眼睛,请不要揉擦,应用清水冲洗眼睛,并立即送医治疗。

◆ If the battery leaks and the electrolyte gets into the eyes, do not rub the eyes, instead, rinse the eyes with clean water, and immediately seek medical attention。