Test Report

Applicant

Address:

The following sample(s) and information were submitted and identified by the applicant

Sample Name:	Li-ion Polymer Cell
Model No.:	106280-10000mAh
Sub-Model No.:	7865115, 656280S, 706074S, 146070, 1055100, 124861-6000mAh, 675676, 735589-6000mAh, 136074-10000mAh, 106274-8000mAh, 145675, 9858102, 135675-10000mAh, 105673, 106280-9200mAh, 926592, 8846106, 923961, 546280, 105555-4700mAh, 546280
Manufacturer:	
Manufacturer Address:	
Origin Of The Product(s):	China
Sample Received Date:	04-Jan-2026
Sample Tested Date:	04-Jan-2026 to 07-Jan-2026
Test Requested:	Test as requested by client
Test Method:	Please refer to next page(s)
Test Results:	Please refer to next page(s)

Summary of test results:

Test Requested	Conclusion
Annex I of Regulation(EU)2023/1542-Heavy Metals Content in batteries and waste batteries	**PASS**

Authorized signature

Fox Rong

Technical supervisor

Approved Signatory

Guangzhou Supreme Technology & Testing Service Co., Ltd.

Guangzhou Supreme Technology & Testing Service Co., Ltd.

103, NanSha IT Park, South Tower, No.2 Huanshi Dadao Nan, NanSha District, GuangZhou City, GuangDong Province.China

Tel: 020-39004143 Fax: 020-39390517 Email: service@xnotesting.com Website: http://www.xnotesting.com

Test Report

Test Result(s):

Annex I of Regulation(EU)2023/1542-Heavy Metals Content in batteries and waste batteries

Test Method: IEC 62321-4:2013+A1:2017 & IEC 62321-5:2013, analyzed by ICP-OES.

Test Item(s)	Limit	Unit	MDL	Result
				1
Lead(Pb)	0.01	%	0.0002	0.0007
Cadmium(Cd)	0.002	%	0.0002	ND
Mercury(Hg)	0.0005	%	0.0002	ND

Remarks:

1. % = percentage by weight
2. 0.0001% = 1 mg/kg = 1ppm
3. MDL = Method Detection Limit
4. ND = Not Detected (Less than MDL)
5. Batteries accumulators and button cells containing more than 0.002% Cadmium or more than 0.004% Lead shall be marked with the chemical symbol for the metal concerned:Cd, Pb.
6. Batteries, whether or not incorporated into appliances, light means of transport or other vehicles, shall not contain more than 0.0005% of mercury (expressed as mercury metal) by weight.
7. Portable batteries, whether or not incorporated into appliances, light means of transport or other vehicles, shall not contain more than 0.002% of cadmium (expressed as cadmium metal) by weight.
8. According to the EU New Battery Regulation(EU) 2023/1542, portable batteries (non portable zinc-air button cells) containing between 0.004 %-0.01 % lead, shall be marked with the chemical symbol for the metal concerned: Pb.
9. The test model No. is 106280-10000mAh, and the difference between the main model and the sub-model No.is generally as follows: the model No. name is different, and the rest is exactly the same.

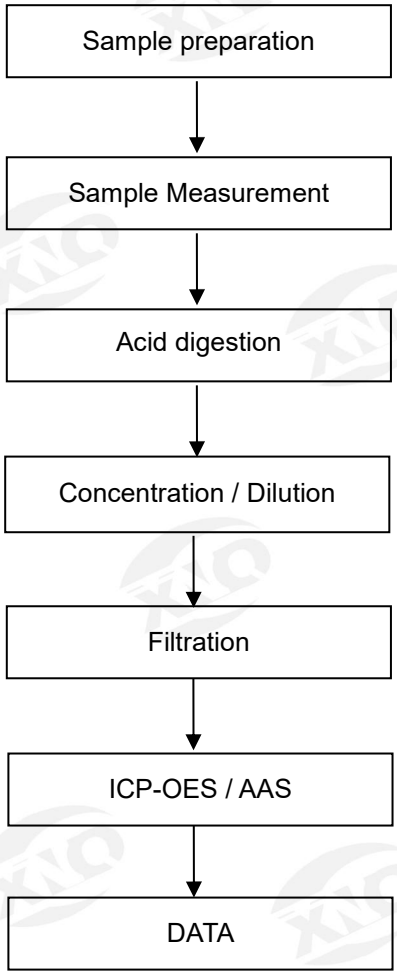
Note: As specified by applicant, to test content in the selected materials of the submitted samples. Pic.1 to Pic.2 are the sample tested. The test results are only responsible for the submitted sample. The test report is only for customer research, teaching, internal quality control, product development and other purposes, for reference only.

Guangzhou Supreme Technology & Testing Service Co., Ltd.

103, NanSha IT Park, South Tower, No.2 Huanshi Dadao Nan, NanSha District, GuangZhou City, GuangDong Province.China

Tel: 020-39004143 Fax: 020-39390517 Email: service@xnotesting.com Website: http://www.xnotesting.com

Lead, Cadmium & Mercury Testing Flow Chart



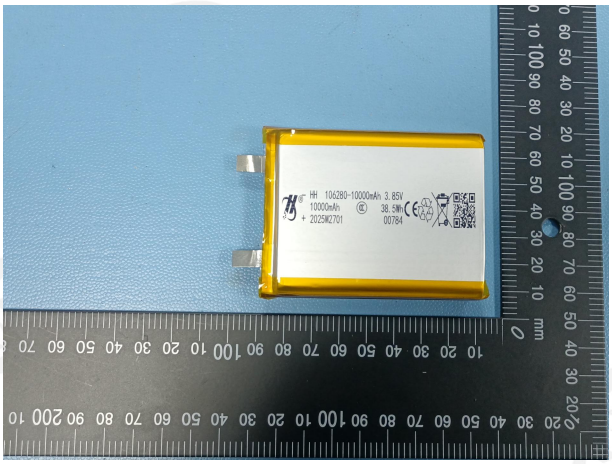
Guangzhou Supreme Technology & Testing Service Co., Ltd.
103, NanSha IT Park, South Tower, No.2 Huanshi Dadao Nan, NanSha District, GuangZhou City, GuangDong Province.China
Tel: 020-39004143 Fax: 020-39390517 Email: service@xnotesting.com Website: http://www.xnotesting.com

Test Report

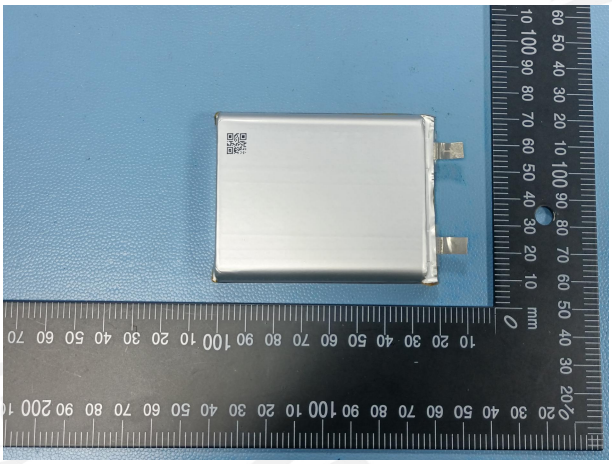
Sample Description:

Specimen No.	Description	Material	Location
1	Battery body	Whole battery	106280-10000mAh

Sample Photo:



Pic.1



Pic.2

*** End of Report ***

Guangzhou Supreme Technology & Testing Service Co., Ltd.

103, NanSha IT Park, South Tower, No.2 Huanshi Dadao Nan, NanSha District, GuangZhou City, GuangDong Province.China

Tel: 020-39004143 Fax: 020-39390517 Email: service@xnotesting.com Website: http://www.xnotesting.com

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.....:	NTT26140022B06-1
Date of issue.....:	2026-04-09
Total number of pages.....:	25 pages
Testing Laboratory.....:	Guangdong NTT Testing Technology Co., Ltd.
Address.....:	Room 201, Building 1, No. 11, Shimenqian Street, Wentang, Dongcheng, Dongguan City, Guangdong Province, China
Applicant's name.....:	
Address.....:	
Test specification:	
Standard.....:	IEC 62133-2:2017+AMD1:2021
Test procedure.....:	Test Report
Non-standard test method.....:	N/A

The results detailed in this test report relate only to the specific sample(s) tested. This report is not to be reproduced except in full, without written approval from NTT Testing Technology.

Test item description.....:	Li-ion Polymer Cell
Trade Mark.....:	
Manufacturer.....:	Same as applicant
Address.....:	Same as applicant
Model/Type reference.....:	546280
Ratings.....:	3.85V, 5000mAh, 19.25Wh

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ **Testing Laboratory:**	Guangdong NTT Testing Technology Co., Ltd.	
Testing location/ address.....:	Room 201, Building 1, No. 11, Shimenqian Street, Wentang, Dongcheng, Dongguan City, Guangdong Province, China	
Tested by (name, signature).....:	Miller Gao	Miller Gao
Reviewed By (name, signature).....:	King Chen	King Chen
Approved by (name, signature).....:	Eason Zhou	Eason Zhou
☐ **Testing procedure: CTF Stage 1:**		
Testing location/ address.....:		
Tested by (name, signature).....:		
Approved by (name, signature).....:		
☐ **Testing procedure: CTF Stage 2:**		
Testing location/ address.....:		
Tested by (name + signature).....:		
Witnessed by (name, signature).....:		
Approved by (name, signature).....:		
☐ **Testing procedure: CTF Stage 3:**		
☐ **Testing procedure: CTF Stage 4:**		
Testing location/ address.....:		
Tested by (name, signature).....:		
Witnessed by (name, signature).....:		
Approved by (name, signature).....:		
Supervised by (name, signature).....:		

List of Attachments:
Appendix 1:1 page of Photo Documentation

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
cl.7.1 Charging procedure for test purposes (for Cells); cl.7.2.1 Continuous charging at constant voltage (cells); cl.7.3.1 External short circuit (cells); cl.7.3.3 Free fall (cells); cl.7.3.4 Thermal abuse (cells); cl.7.3.5 Crush (cells); cl.7.3.7 Forced discharge (cells); cl.7.3.9 Design evaluation – Forced internal short circuit (cells); The electrolyte type of this cell doesn't belong to polymer, and the additional test cl.7.3.9 was carried out to evaluate the cell. Tests are made with the number of cells specified in IEC 62133-2:2017+AMD1:2021 Table 1.	Guangdong NTT Testing Technology Co., Ltd. Room 201, Building 1, No. 11, Shimenqian Street, Wentang, Dongcheng, Dongguan City, Guangdong Province, China

Summary of compliance with National Differences
N/A

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

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.

Li-ion Polymer Cell

- Model: 546280 ICP6/62/81

+ Rated: 3.85V, 5000mAh, 19.25Wh

2025M0802

Caution:

Potential for fire or burning. Do not disassemble, puncture, crush, heat or burn.

Date code: 2025M0802
"2025" means year, for example "2025" means 2025 year
"M" means month, (A-H represents January to August, J-M represents September to December, the production date code does not use the letters I and O) for example "M" represents December
"08" represents the 08th day,
"02" represents production on the 02nd packaging line.

Test item particulars..... :	
Classification of installation and use.....:	To be defined in final product
Supply connection.....:	DC electrode tab
Recommend charging method declared by the manufacturer..... :	Charging the cell with 1000mA constant current until 4.45V, then constant voltage until charge current reduces to 100mA at ambient 20°C±5°C.
Discharge current (0,2 I_t A).....:	1000mA
Specified final voltage..... :	3.0V
Upper limit charging voltage per cell..... :	4.45V (0ºC≤T<55ºC)
Maximum charging current..... :	10000mA to 4.45V (0ºC≤T<55ºC)
Chargingtemperatureupperlimit.....	55°C
Charging temperature lower limit..... :	0°C
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..... :	2026-03-10
Date (s) of performance of tests..... :	2026-03-10 to 2026-03-21

General remarks:

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 testing laboratory.
"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

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

General product information:

The cell consists of the positive electrode plate, negative electrode plate, separator, electrolyte, case. The positive and negative electrode plates are housed in the case in the state being separated by the separator.

The main features of the cell are shown as below (clause 7.1.1):

Model (Cell)	Nominal capacity	Nominal voltage	Nominal Charge Current	Nominal Discharge Current	Maximum Charge Current	Maximum Discharge Current	Maximum Charge Voltage	Cut-off Voltage
546280	5000mAh	3.85V	1000mA	1000mA	10000mA to 4.45V (0ºC≤T< 55ºC)	10000mA	4.45V	3.0V

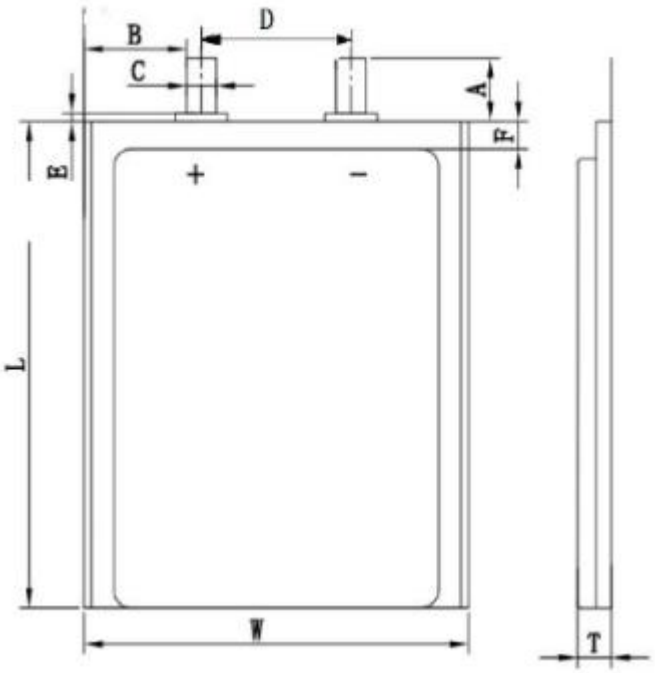
The main features of the cell are shown as below (clause 7.1.2):

Model (Cell)	Upper limit charge voltage	Taper-off current	Lower charge temperature	Upper charge temperature
546280	4.45V (0ºC≤T<55ºC)	250mA	0°C	55°C

Remark: The recommend charging voltage of the cell is 4.4V.

Charging procedure according to 7.1.2	
Upper limit charge	55ºC, charging with 2500mA to 4.45V, CCCV
Lower limit charge	0ºC, charging with 1000mA to 4.45V, CCCV

Construction:



T: Max. 5.5mm, W: Max. 62.0mm, L: Max. 80.5mm
Cell

Circuit diagram:
None, cell only

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**		N/A
	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	Cell only.	N/A
	Insulation resistance (MΩ)..... :		—
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements		N/A
	Orientation of wiring maintains adequate clearances and creepage distances between conductors		N/A
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse		N/A
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.	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**		N/A
	Batteries are designed such that abnormal temperature rise conditions are prevented	Cell only.	N/A
	Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer		N/A
	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		N/A
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**		N/A
5.6.1	General		N/A
	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	Cell only.	N/A
	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		N/A
	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		N/A
	Protective circuit components are added as appropriate and consideration given to the end-device application		N/A
	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		N/A
	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	Cell only.	N/A

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		N/A
	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	Cell only.	N/A
	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		N/A
	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 plan provided.	P
5.8	**Battery safety components**	See TABLE: Critical components information	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	Cell only.	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	Cell only.	N/A
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	See page 5.	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	See page 5.	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	Charge temperature range: 0°C used for lower limit tests. 55°C used for upper limit tests.	P
7.2	**Intended use**		P
7.2.1	Continuous charging at constant voltage (cells)	Tested complied.	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	Charging for 7 days with 1000mA.	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)	Cell only.	N/A
	Oven temperature (°C)..... :		—
	Results: no physical distortion of the battery case resulting in exposure of internal protective components and cells		N/A
7.3	**Reasonably foreseeable misuse**		P
7.3.1	External short-circuit (cell)	Tested complied.	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)	Cell only.	N/A
	The batteries were tested until one of the following occurred:		N/A
	- 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		N/A
	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		N/A

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		N/A
	Results: no fire, no explosion.....:		N/A
7.3.3	Free fall	Tested complied.	P
	Results: no fire, no explosion	No fire. No explosion	P
7.3.4	Thermal abuse (cells)	Tested complied.	P
	Oven temperature (°C).....:	130.3°C	—
	Results: no fire, no explosion	No fire. No explosion	P
7.3.5	Crush (cells)	Tested complied.	P
	The crushing force was released upon:		P
	- The maximum force of 13 kN ± 0,78 kN has been applied; or		N/A
	- An abrupt voltage drop of one-third of the original voltage has been obtained		P
	Results: no fire, no explosion.....:	(See appended table 7.3.5)	P
7.3.6	Over-charging of battery	Cell only.	N/A
	The supply voltage which is:		N/A
	- 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		N/A
	- 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		N/A
	Test was continued until the temperature of the outer casing:		N/A
	- Reached steady state conditions (less than 10 °C change in 30-minute period); or		N/A
	- Returned to ambient		N/A
	Results: no fire, no explosion.....:		N/A
7.3.7	Forced discharge (cells)	Tested complied.	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)		N/A
7.3.8.1	Vibration	Cell only.	N/A
	Results: no fire, no explosion, no rupture, no leakage or venting.....:		N/A
7.3.8.2	Mechanical shock	Cell only.	N/A
	Results: no leakage, no venting, no rupture, no explosion and no fire.....:		N/A
7.3.9	Design evaluation – Forced internal short-circuit (cells)	Tested complied.	P
	The cells complied with national requirement for.....:	France, Japan, Republic of 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	400N for prismatic 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		N/A
	Systems analyses are performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product		N/A
	As appropriate, any information relating to hazard avoidance resulting from a system analysis is provided to the end user		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 cells.	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**		P
	Cells are marked as specified in IEC 61960, except coin cells	The cell is marked in accordance with IEC 61960, also see copy of marking plate.	P
	Coin cells whose external surface area is too small to accommodate the markings on the cells show the designation and polarity		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**	Cell only.	N/A
	Batteries are marked as specified in IEC 61960, except for coin batteries		N/A
	Coin batteries whose external surface area is too small to accommodate the markings on the batteries show the designation and polarity		N/A
	Batteries are marked with an appropriate caution statement		N/A
	- 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		N/A
9.3	**Caution for ingestion of small cells and batteries**	Not small cells.	N/A

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Coin cells and batteries identified as small batteries include a caution statement regarding the hazards of ingestion in accordance with 8.2		N/A
	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**		N/A
	The following information are marked on or supplied with the battery:		N/A
	- Storage and disposal instructions		N/A
	- Recommended charging instructions		N/A
10	**PACKAGING AND TRANSPORT**		N/A
	Packaging for coin cells are not be small enough to fit within the limits of the ingestion gauge of Figure 3		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	4.45V 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	4.45V applied.	P
A.4	**Consideration of temperature and charging current**		P
A.4.1	General		P
A.4.2	Recommended temperature range	Charging temperature range declared by client is: 0-55°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 3.0V, not exceed 3.0V specified by cell manufacturer.	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		N/A
A.5.5.1	Insertion of nickel particle in winding core		N/A
A.5.5.2	Marking the position of the nickel particle on both ends of the winding core of the separator		N/A
A.5.6	Insertion of nickel particle in prismatic cell		P
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

IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
A.6.6	Insulation film for preventing short-circuit		P
A.6.7	Caution when disassembling a cell		P
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**		N/A
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**		N/A
ANNEX F	**COMPONENT STANDARDS REFERENCES**		N/A

	TABLE: Critical components information				P
Object/part no.	**Manufacturer/ trademark**	**Type/model**	**Technical data**	**Standard**	**Mark(s) of conformity**
-Positive electrode	Nanjing Hanrui New Materials Co.,Ltd	HR030	$LiCoO_2$	--	--
-Negative electrode	QINGDAO TAIDA-HUAYUN NEW ENERGY TECHNOLOGY CO.,LTD	HH-FC	Graphite	--	--
-Separator	Hunan Shuopu New Material Co,Ltd	10μm	PE+Al_2O_3+PVDF, Closing temperature: 135ºC, Thickness: 0.010mm	--	--
-Electrolyte	HuNan HiSun New Energy Material Co., Ltd.	HS25395	$LiPF_6$+DEC+EC	--	--
Supplementary information: N/A					

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**
C1#	4.40	1.00	4.38	P
C2#	4.40	1.00	4.39	P
C3#	4.40	1.00	4.39	P
C4#	4.40	1.00	4.38	P
C5#	4.40	1.00	4.38	P
Supplementary information: - No fire or explosion - No leakage				

7.3.1	TABLE: External short-circuit (cell)				P
Sample no.	**Ambient T (°C)**	**OCV before test (Vdc)**	**Resistance of circuit (mΩ)**	**Maximum case temperature ~~rise~~ ΔT (°C)**	**Results**
Samples charged at charging temperature upper limit (55°C)					
C6#	55.7	4.15	85.1	104.9	P
C7#	55.7	4.16	84.6	105.7	P
C8#	55.7	4.16	82.9	107.8	P
C9#	55.7	4.15	83.2	103.4	P
C10#	55.7	4.15	83.5	106.8	P
Samples charged at charging temperature lower limit (0°C)					
C11#	55.5	4.32	83.8	109.7	P
C12#	55.5	4.33	82.5	113.5	P
C13#	55.5	4.33	81.9	115.4	P
C14#	55.5	4.32	82.9	114.2	P
C15#	55.5	4.32	83.0	114.9	P
Supplementary information: - No fire or explosion					

7.3.2	TABLE: External short-circuit (battery)					N/A
Sample no.	**Ambient T (°C)**	**OCV before test (Vdc)**	**Resistance of circuit (mΩ)**	**Maximum case temperature ~~rise ΔT~~ (°C)**	**Component single fault condition**	**Results**
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
Supplementary information:						

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 (55°C)				
C29#	4.16	4.15	12.99	P
C30#	4.15	4.14	12.95	P
C31#	4.16	4.16	12.90	P
C32#	4.15	4.14	12.95	P
C33#	4.15	4.15	12.98	P
Samples charged at charging temperature lower limit (0°C)				
C34#	4.34	4.33	12.96	P
C35#	4.33	4.33	12.95	P
C36#	4.33	4.32	12.98	P
C37#	4.33	4.32	12.97	P
C38#	4.34	4.33	12.99	P
Supplementary information: - No fire or explosion				

7.3.6	TABLE: Over-charging of battery			N/A
Constant charging current (A).....:		--		—
Supply voltage (Vdc).....:		--		—
Sample no.	**OCV before charging (Vdc)**	**Total charging time (minute)**	**Maximum outer case temperature (°C)**	**Results**
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
Supplementary information:				

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#	3.36	5.00	3.00	P
C40#	3.36	5.00	3.00	P
C41#	3.35	5.00	3.00	P
C42#	3.35	5.00	3.00	P
C43#	3.36	5.00	3.00	P
Supplementary information: - No fire or explosion				

7.3.8.1	TABLE: Vibration				N/A
Sample no.	**OCV before test (Vdc)**	**OCV after test (Vdc)**	**Mass before test (g)**	**Mass after test(g)**	**Results**
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary information:					

7.3.8.2	TABLE: Mechanical shock				N/A
Sample no.	**OCV before test (Vdc)**	**OCV after test (Vdc)**	**Mass before test (g)**	**Mass after test(g)**	**Results**
--	--	--	--	--	--
--	--	--	--	--	--
--	--	--	--	--	--
Supplementary information:					

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 (55°C)					
C44#	55	4.16	1	400	P
C45#	55	4.15	1	400	P
C46#	55	4.16	1	400	P
C47#	55	4.16	1	400	P
C48#	55	4.15	1	400	P
Samples charged at charging temperature lower limit (0°C)					
C49#	0	4.43	1	400	P
C50#	0	4.42	1	400	P
C51#	0	4.43	1	400	P
C52#	0	4.42	1	400	P
C53#	0	4.43	1	400	P

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.

- No fire or explosion

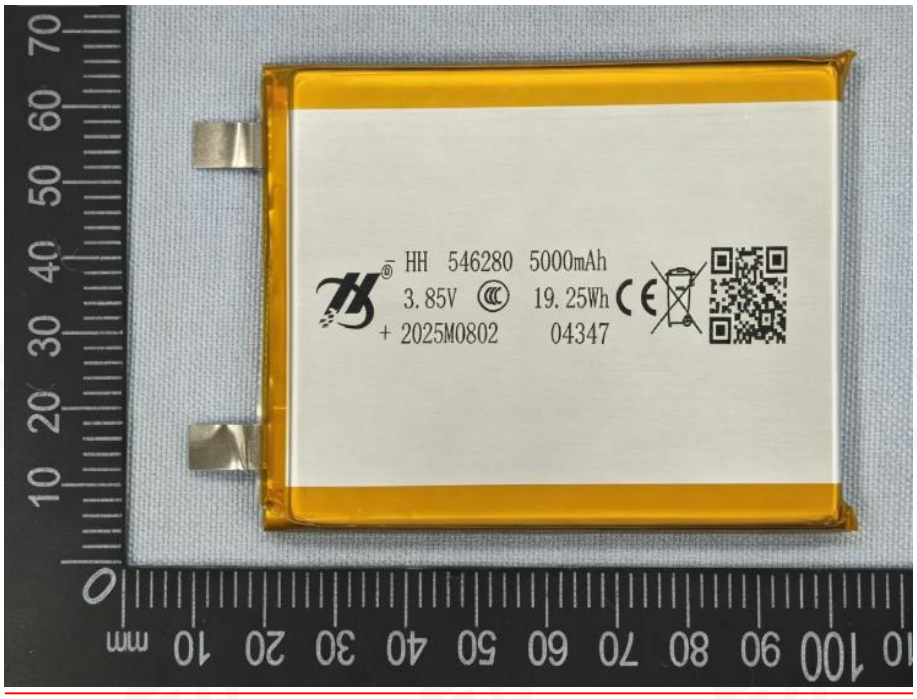
D.2	TABLE: Internal AC resistance for coin cells			N/A
Sample no.	**Ambient T (°C)**	**Store time (h)**	**Resistance Rac (Ω)**	**Results 1)**
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--

Supplementary information:

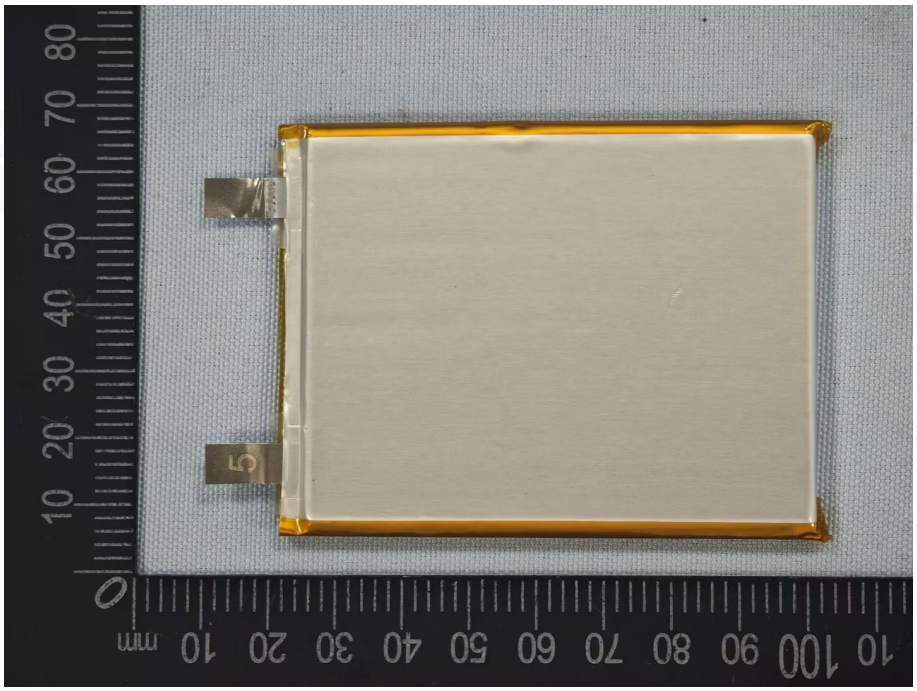
1) Coin cells with internal resistance less than or equal to 3 Ω, see test result on corresponding tables

Appendix 1: Photo Documentation

Details of:	Fig.1–Front view of cell 546280



Details of:	Fig.2–Back view of cell 546280



---End of Test Report---