



中国认可
国际互认
检测
TESTING
CNAS L16465

Version: 1.0

**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.....: ECT20250328035

Date of issue.....: 2025-04-22

Total number of pages.....: 20 pages

Tested by (name + signature).....: Chen Qiubo

Checked by (name + signature).....: Eddie.Shi

Approved by (name + signature)....: Eric.Ren

Chen Qiubo
Eddie.Shi
Eric.Ren



Applicant's name.....: Shenzhen Jixinxing Energy Co.,LTD

Address.....: Building 11, Tianfu 'an Industrial Zone, Jinzhujiao Village, Xixiang Street, Bao' an District, Shenzhen City

Test specification:

Standard.....: IEC 62133-2: 2017, IEC 62133-2:2017/AMD1:2021

Test procedure.....: Type Test

Test result.....: Pass

Non-standard test method.....: N/A

Testing laboratory.....: Shenzhen ECT Testing Technology Co.,Ltd

Address.....: B202, Block A.B, Huijuxinqiao 107 Chuangzhi Park, No.18, Shangnan Shangliao Industrial Road, Shangliao Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, China

Testing location.....: As above

Test item description.....: Li-ion Cell

Trade Mark.....: N/A

Manufacturer.....: Same as applicant

Model/Type reference.....: 703030

Ratings.....: 3.7V, 500mAh, 1.85Wh

Note:

*This report shall not be reproduced except in full, without the written approval of Shenzhen ECT Testing Technology Co.,Ltd
This report may be altered or revised by Shenzhen ECT Testing Technology Co.,Ltd personnel only, and shall be noted in the revision section of the report. The test result in the report only apply to the tested samples.*

**List of Attachments (including a total number of pages in each attachment):**

Attachment 1: Photo Documentation (20 page).

Summary of testing:**Tests performed (name of test and test clause):**

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).

Tests are made with the number of cells specified in IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021 Table 1.

Testing location:

Shenzhen ECT Testing Technology Co.,Ltd
B202, Block A.B, Huijuxinqiao 107 Chuangzhi Park,
No.18, Shangnan Shangliao Industrial Road,
Shangliao Community, Xinqiao Street, Baoan
District, Shenzhen, Guangdong, China

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

N/A

☒ The product fulfils the requirements of **EN 62133-2:2017, 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: N/A (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.

+ -
Li-ion Cell
Model: 703030
3.7V, 500mAh, 1.85Wh
ICP7/30/30 YYYY/MM/DD
Shenzhen Jixinxing Energy Co.,LTD

Remark:

“YYYY” means year for manufacture;

“MM” means month for manufacture;

“DD” means day for manufacture.



Test item particulars..... :	
Classification of installation and use.....:	To be defined in final product
Supply Connection.....:	DC lead wire
Recommend charging method declared by the manufacturer.....:	Charging the cell with 100mA constant current and 4.2V constant voltage until the current reduces to 5mA at ambient 20°C±5°C
Discharge current (0,2 It A).....:	100mA
Specified final voltage..... :	3.0V
Upper limit charging voltage per cell.....:	4.2V
Maximum charging current.....:	250mA
Charging temperature upper limit.....:	45°C
Charging temperature lower limit.....:	0°C
cell electrolyte type..... :	☐ gel ☐ solid ☒ 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.....:	2025-03-28
Date (s) of performance of tests.....:	2025-03-31 to 2025-04-16
General remarks:	
<p>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.</p>	
Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	
Name and address of factory (ies)..... :	Same as applicant

**General product information and other remarks:**

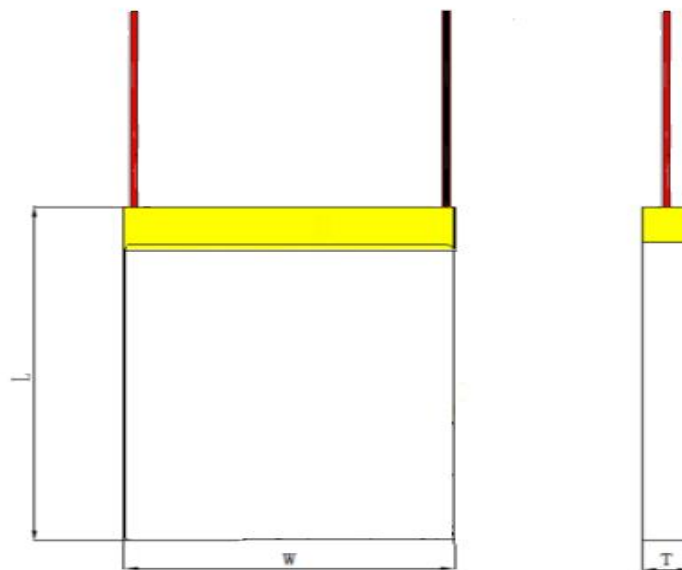
The cell consists of the positive electrode plate, negative electrode plate, separator, electrolyte, case.
The positive and negative electrode plates are housed in the case in the state being separated by the separator.

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

Model	Nominal capacity	Nominal voltage	Nominal Charge Current	Nominal Discharge Current	Maximum Charge Current	Maximum Discharge Current	Maximum Charge Voltage	Cut-off Voltage
703030	500mAh	3.7V	100mA	100mA	250mA	250mA	4.2V	3.0V

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

Model	Upper limit charge voltage	Taper-off current	Lower charge temperature	Upper charge temperature
703030	4.2V	25mA	0°C	45°C

Construction:

T: Max 7.0mm, W: Max 30.0mm, L: Max 31.5mm
Cell

Circuit diagram:

Not, Only cell.



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	No metal case exists.	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 clearance and creep age 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 on the narrow side of the 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	Only cell.	N/A
	Batteries are designed such that abnormal temperature rise conditions are prevented		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
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current	DC lead wire complied with the requirements	P
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance	Complied	P



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Terminal contacts are arranged to minimize the risk of short-circuit		P
5.6	Assembly of cells into batteries	Only cell.	N/A
5.6.1	General		N/A
	Each battery have 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		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 have 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 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		N/A
	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



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	For batteries consisting of series-connected cells or cell blocks, nominal charge voltage not be 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 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 incorporated into the battery management system		N/A
5.6.3	Mechanical protection for cells and components of batteries		N/A
	Mechanical protection for cells, cell connections and control circuits within the battery 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 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 considered when conducting mechanical tests		N/A
5.7	Quality plan		P
	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	Only cell.	N/A
	According annex F		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
	Coin cells with resistance $\leq 3 \Omega$ (measured according annex D) are tested according table 1	Not coin cells	N/A



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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	Only cell.	N/A
	When conducting the short-circuit test, consideration 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	Only cell.	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 sub clauses 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 have 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
	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 0-45°C declared. 45°C used for upper limit tests; -5°C used for lower 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 100mA.	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)	Only cell.	N/A
	Oven temperature (°C)..... :	70°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



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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)	Only cell.	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 conducted on one to four (depending upon the protection circuit) of the five samples before conducting the short-circuit test		N/A
	A single fault applies to protective component parts such as MOSFET, 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°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±0,78kN 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	Only cell.	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



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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	Lower limit discharge voltage 3.0V.	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
	- 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)	Only cell.	N/A
7.3.8.1	Vibration		N/A
	Results: No fire, no explosion, no rupture, no leakage or venting.....:		N/A
7.3.8.2	Mechanical shock		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



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturers of secondary cells ensure that information is provided about current, voltage and temperature limits of their products	Information for safety mentioned in manufacturer's specifications.	P
	Manufacturers of batteries ensure that equipment manufacturers and, in the case of direct sales, end-users are provided with information to minimize and mitigate hazards	Only cell.	N/A
	Systems analyses 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 provided to the end user		N/A
	Do not allow children to replace batteries without adult supervision	Only cell.	N/A
8.2	Small cell and battery safety information	Small cell	P
	The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them:		P
	- Keep small cells and batteries which are considered swallow able out of the reach of children		P
	- Swallowing may lead to burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion		P
	- In case of ingestion of a cell or battery, seek medical assistance promptly		P
9	MARKING		P
9.1	Cell marking		P
	Cells marked as specified in IEC 61960, except coin cells	The battery is marked in accordance with IEC 61960, see page 3.	P
	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		P
9.2	Battery marking	Only cell.	N/A
	Batteries 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



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Batteries also marked with an appropriate caution statement		N/A
	Terminals have clear polarity marking on the external surface of the battery		N/A
	Batteries with keyed external connectors designed for connection to specific end products need 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	Small cells	P
	Coin cells and batteries identified as small batteries according to 8.2 include a caution statement regarding the hazards of ingestion in accordance with 8.2	Not coin cells	N/A
	When small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion given on the immediate package		P
9.4	Other information		P
	Storage and disposal instructions	Information for safety mentioned in manufacturer's specifications.	P
	Recommended charging instructions	Information for safety mentioned in manufacturer's specifications.	P
10	PACKAGING AND TRANSPORT		N/A
	Packaging for coin cells not 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	4.2V	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	4.2V applied.	P
A.4	Consideration of temperature and charging current		P
A.4.1	General		P
A.4.2	Recommended temperature range	See A.4.2.2.	P
A.4.2.1	General		P



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
A.4.2.2	Safety consideration when a different recommended temperature range is applied	Charging temperature declared by client is: 0~45°C.	P
A.4.3	High temperature range	Not higher than the temperature range specific in this standard.	N/A
A.4.3.1	General		N/A
A.4.3.2	Explanation of safety viewpoint		N/A
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	Charging lower temperature declared by client is 0°C	P
A.4.4.1	General		P
A.4.4.2	Explanation of safety viewpoint		P
A.4.4.3	Safety considerations, when specifying charging conditions in the low temperature range		P
A.4.4.4	Safety considerations when specifying a new lower limit in the low temperature range	No documents provided by client explaining reason of 0°C as low temperature limit, -5°C used to meet the requirement	P
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		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



IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
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
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.....:	(See appended table D.2)	N/A
	Coin cells with an internal resistance of less than or equal to 3 Ω are subjected to the testing according to Clause 6 and Table 1		N/A
	Coin cells with an internal resistance greater than 3 Ω require no further testing		N/A
ANNEX E	PACKAGING AND TRANSPORT		N/A
ANNEX F	COMPONENT STANDARDS REFERENCES		N/A



7.2.1	TABLE: Continuous charging at constant voltage (cells)				P
Sample no.	Recommended charging voltage V _c (Vdc)	Recommended charging current I _{rec} (mA)	OCV before test (Vdc)	Results	
Cell #1	4.20	100	4.18	P	
Cell #2	4.20	100	4.18	P	
Cell #3	4.20	100	4.19	P	
Cell #4	4.20	100	4.18	P	
Cell #5	4.20	100	4.19	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 (45°C)					
Cell #6	55.5	4.18	85	105.6	P
Cell #7	55.5	4.17	84	104.3	P
Cell #8	55.5	4.17	82	103.2	P
Cell #9	55.5	4.17	88	106.0	P
Cell #10	55.5	4.18	85	104.1	P
Samples charged at charging temperature lower limit (-5°C)					
Cell #11	55.4	4.13	80	103.3	P
Cell #12	55.4	4.12	85	101.5	P
Cell #13	55.4	4.12	82	103.5	P
Cell #14	55.4	4.13	88	103.0	P
Cell #15	55.4	4.12	81	102.4	P
Supplementary information: - No fire or explosion					



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)					
Cell #29	4.17	4.17	13	P	
Cell #30	4.18	4.17	13	P	
Cell #31	4.17	4.17	13	P	
Cell #32	4.18	4.18	13	P	
Cell #33	4.17	4.16	13	P	
Samples charged at charging temperature lower limit (-5°C)					
Cell #34	4.12	4.11	13	P	
Cell #35	4.12	4.12	13	P	
Cell #36	4.13	4.12	13	P	
Cell #37	4.12	4.12	13	P	
Cell #38	4.13	4.13	13	P	
Supplementary information:					
- No fire or explosion					

7.3.7	TABLE: Forced discharge (cells)				P
Sample no.	OCV before application of reverse charge (Vdc)	Measured reverse charge I_t (mA)	Lower limit discharge voltage (Vdc)	Results	
Cell #39	3.34	500	3.0	P	
Cell #40	3.35	500	3.0	P	
Cell #41	3.33	500	3.0	P	
Cell #42	3.34	500	3.0	P	
Cell #43	3.33	500	3.0	P	
Supplementary information: - No fire or explosion					



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)						
Cell #44	45	4.17	1	400	P	
Cell #45	45	4.18	1	400	P	
Cell #46	45	4.17	1	400	P	
Cell #47	45	4.18	1	400	P	
Cell #48	45	4.17	1	400	P	
Samples charged at charging temperature lower limit (-5°C)						
Cell #49	-5	4.13	1	400	P	
Cell #50	-5	4.12	1	400	P	
Cell #51	-5	4.12	1	400	P	
Cell #52	-5	4.13	1	400	P	
Cell #53	-5	4.12	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.						

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:					



TABLE: Critical components information					P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity ¹⁾
Cell	Shenzhen Jixinxing Energy Co.,LTD	703030	3.7V, 500mAh	IEC 62133-2: 2017, IEC 62133-2:2017/AMD1:2021	Tested with appliance
-Electrolyte	--	--	LiPF ₆ +EC+EMC+D EC	--	--
-Separator	--	--	PE, Shutdown temperature: 130°C	--	--
-Negative Electrode	--	--	Graphite	--	--
-Positive Electrode	--	--	LiCoO ₂	--	--
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance.					



Attachment 1

Photo Documentation

Page 20 of 20

Report No. ECT20250328035

Product: Li-ion Cell

Type Designation: 703030

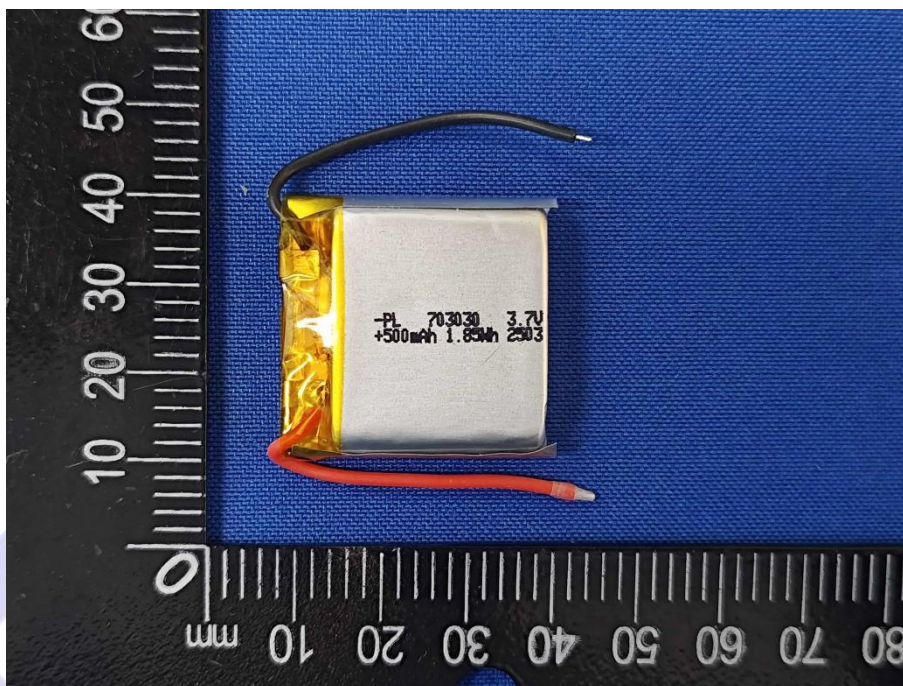


Figure 1 Front view of cell

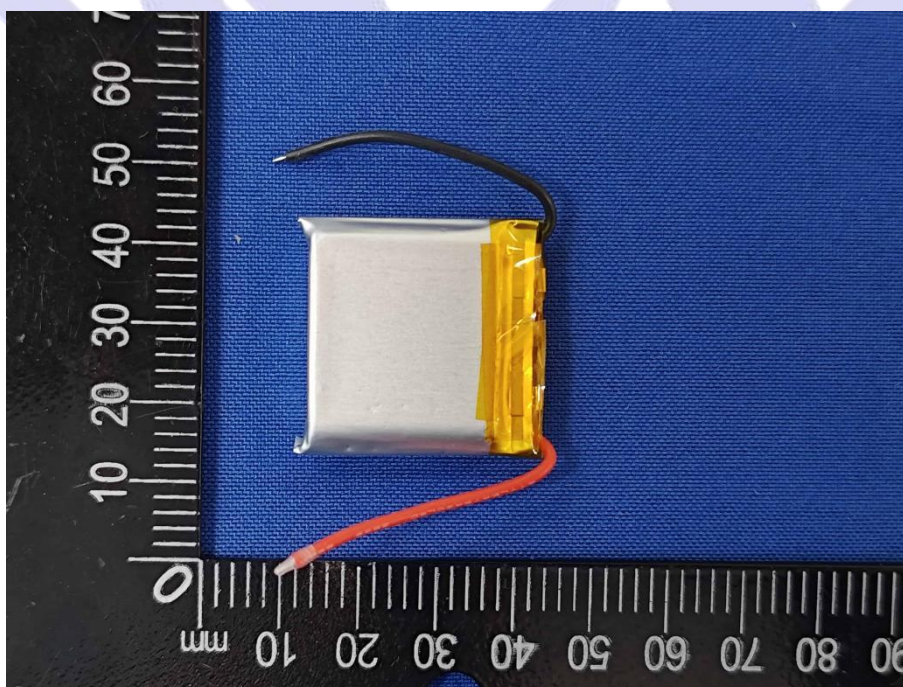


Figure 2 Back view of cell

-- End of Report --