TEST REPORT

Reference No.	:	DLDN-260312011R
Applicant	:	Shenzhen Yisheng Energy Co., Ltd.
Address	:	Room 101, No. 4, Minghui Factory Building, Lixin North Road, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen
Manufacturer	:	Shenzhen Yisheng Energy Co., Ltd.
Address	:	Room 101, No. 4, Minghui Factory Building, Lixin North Road, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen
Product Name	:	Rechargeable lithium-ion battery
Model No	:	131730
Trade Mark	:	/
Total pages	:	25 Pages
Standards	:	IEC62133-2:2017/AMD1:2021
Date of Receipt sample	:	2026-03-03
Date of Test	:	2026-03-03 to 2026-03-13
Date of Issue	:	2026-03-13
Test Result	:	The submitted samples comply with the above standards

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
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Compiled by:	Reviewed by:	Approved by:
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List of Attachments (including a total number of pages in each attachment): Attachments 1: Photos documentation (3 pages);	
Summary of testing:	
Tests performed (name of test and test clause): ☒7.2.1 Continuous charging at constant voltage (cells) ☒7.2.2 Case stress at high ambient temperature (battery) ☒7.3.1 External short-circuit (cell) ☒7.3.2 External short-circuit (battery) ☒7.3.3 Free fall ☒7.3.4 Thermal abuse (cells) ☒7.3.5 Crush (cells) ☐7.3.6 Over-charging of battery ☒7.3.7 Forced discharge (cells) ☒7.3.8.1 Vibration ☒7.3.8.2 Mechanical shock ☒7.3.9 Design evaluation – Forced internal short circuit (cells)	**Testing location:** **Shenzhen DL New Energy Testing Technology Co., Ltd.** Address: Room 101, Building 102, Baoshan Second Industrial Zone, Liuhe Community, Pingshan Street, Pingshan District, Shenzhen City, China
Summary of compliance with National Differences **List of countries addressed: N/A**	

Test item particulars:	
Classification of installation and use	To be defined in final product
Supply connection	DC connector
Recommend charging method declared by the manufacturer	Charge at constant current 275mA until voltage reaches 4.2V, then charge at constant voltage 4.2V till charge current is 11mA
Discharge current (0,2 I_t A)	1650mA
Specified final voltage:	3V
Chemistry :	☐ nickel systems ☒ lithium systems
Recommend of charging limit for lithium system	
Upper limit charging voltage per cell:	4.2V
Maximum charging current	2750mA
Charging temperature upper limit	45°C
Charging temperature lower limit	0°C
Polymer cell electrolyte type	☐ gel polymer ☐ solid polymer
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	2026-03-03
Date (s) of performance of tests	2026-03-03 to 2026-03-13
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 Manufacturer.

General product information:

This Li-ion Battery is constructed with two Li-ion cells (1S2P), and has overcharge, over-discharge, over current and short-circuits proof circuit.

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

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

Model (Battery)	Nominal capacity	Nominal voltage	Nominal Charge Current	Nominal Discharge Current	Maximum Charge Current	Maximum Discharge Current	Maximum Charge Voltage	Cut-off Voltage
131730	550mAh	3.7V	1650mA	1650mA	2750mA	2750mA	4.2V	3V

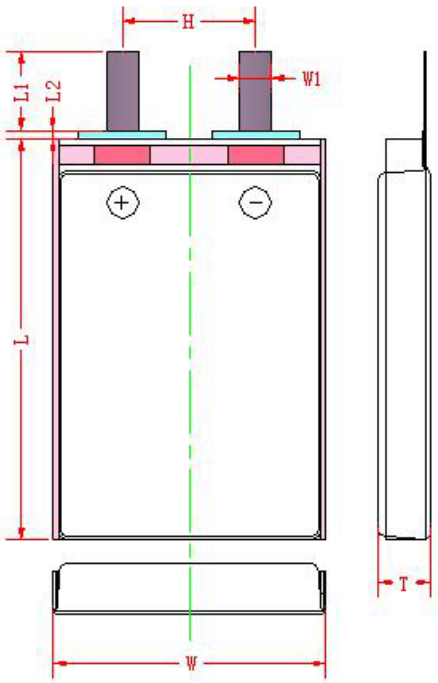
The main features of the cell in the battery pack are shown as below (clause 7.1.1):

Model (Cell)	Nominal capacity	Nominal voltage	Nominal Charge Current	Nominal Discharge Current	Maximum Charge Current	Maximum Discharge Current	Maximum Charge Voltage	Cut-off Voltage
YS 651730	275mAh	3.7V	825mA	825mA	1375mA	1375mA	4.2V	3V

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

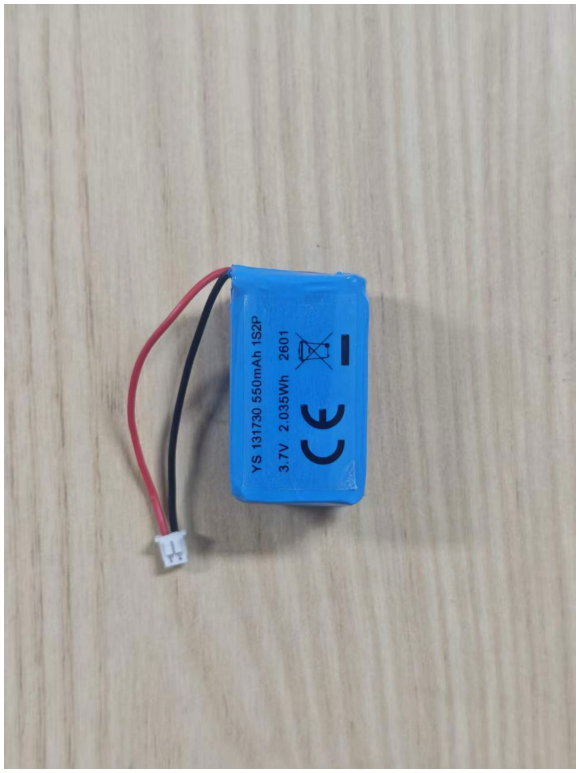
Model (Cell)	Upper limit charge voltage	Taper-off current	Lower charge temperature	Upper charge temperature
YS 651730	4.2V	27.5mA	0°C	45°C

Construction:



L:≤30.0	W: ≤17.0	T: ≤6.50	TL1/TL2: ≤5.6	A: ≤2.2	B: ≤2.0

Cell (Unit: mm)



L:≤31	W: ≤17.5	T: ≤14.5

Battery (Unit: mm)

Circuit diagram:N/A

Copy of marking plate

The artwork below may be only a 131730. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Red wire（+） Black wire （-）
Rechargeable lithium-ion battery Model: 131730 (1ICP7/17/30-2)
3.7V,550mAh,2.035Wh
Shenzhen Yisheng Energy Co., Ltd.
-Do not short circuit
-Do not dispose in fire or expose to high temperature the fire
YYYYMMDD

MADE IN CHINA

Remark: “YYYYMMDD" represents the date of manufacture. "DD" represents the day, "MM" representsthe month, "YYYY" represents the year.

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
4	**Parameter measurement tolerances**		**P**
	Parameter measurement tolerances	All control and measure values were within the tolerances.	P
5	**General safety considerations**		**P**
5.1	General	Considered	P
5.2	Insulation and wiring	See below.	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		N/A
	Insulation resistance (MΩ) .....:		N/A
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements		P
	Orientation of wiring maintains adequate creepage and clearance distances between conductors		P
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse	Considered	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 narrow side of the pouch 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	No encapsulation used.	N/A
5.4	Temperature/voltage/current management	Overcharge, over-discharge, over current and short-circuit proof circuit used in this battery. See tests of clause 7.	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		P
	Batteries are provided with specifications and charging instructions for equipment manufacturers so that associated chargers are designed to maintain charging within the temperature, voltage and current limits specified		P
5.5	Terminal contacts	See below.	P

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current	Maximum anticipated current can be carried.	P
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance	Contact surfaces are conductive with good mechanical strength and corrosion resistance.	P
	Terminal contacts are arranged to minimize the risk of short circuits	Suitable arrangement of terminals to prevent short circuit.	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
	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.		N/A
	Protective circuit components are added as appropriate and consideration given to the end-device application		P
	The manufacturer of the battery provides 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	Considered	P
	For the battery consisting of a single cell or a single cellblock, the charging voltage of the cell does not exceed the upper limit of the charging voltage specified in Clause 7.1.2, Table 2; or		N/A

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks, 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	Max. Charging voltage of each cell block: 4.2V, not exceed 4.2V specified in Clause 7.1.2, Table 2.	P
	For the battery consisting of series-connected plural single cells or series-connected plural cellblocks, 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 were 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
	The cells and cell blocks were not discharged beyond the cell manufacturer's specified final voltage	Final voltage of battery: 3.0V, not exceed the final voltage specified by cell manufacturer.	P
	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		P
	Mechanical protection for cells, cell connections and control circuits within the battery were provided to prevent damage as a result of intended use and reasonably foreseeable misuse.	Mechanical protection for cell connections and control circuits provided.	P
	The mechanical protection was provided by the battery case or by the end product enclosure for those batteries intended for building into an end product	Build-in batteries, mechanical protection for cells should be provided by end product.	N/A
	The battery case and compartments housing cells were designed to accommodate cell dimensional tolerances during charging and discharging as recommended by the cell manufacturer	To be evaluated in final system.	N/A
	For batteries intended for building into a portable end product, testing with the battery installed within the end product was considered when conducting mechanical tests		N/A
5.7	Quality plan	Considered.	P

IEC 62133-2:2017/AMD1:2021			
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	The manufacturer has ISO 9001:2008 certificate and such quality plan.	P
5.8	Battery safety components		
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 ≤ 3 Ω (measured according annex D) are tested according table 1	Not coin cells	N/A
	Unless noted otherwise in the test methods, testing was conducted in an ambient of 20°C ± 5°C.	The tests are conducted in an ambient 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 overdischarge protection		P
	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	See clause 7.3.2.	P
7	**Specific requirements and tests**		P
7.1	Charging procedures for test purposes	Considered	P
7.1.1	First procedure: This charging procedure applied to tests other than those specified in 7.1.2	Considered	P
7.1.2	Second procedure: This charging procedure applied to the tests of 7.3.1, 7.3.4, 7.3.5, and 7.3.9	Considered	P
7.2	Intended use	See below	P
7.2.1	Continuous charging at constant voltage (cells)	Considered	P
	Results: No fire, no explosion, no leakage ..... :	No fire, no explosion, no leakage (See Table 7.2.1)	P
7.2.2	Case stress at high ambient temperature (battery)	Considered	P
	Oven temperature (°C)..... :	70±2°C	--
	Results: No physical distortion of the battery casing resulting in exposure if internal components	No physical distortion of the battery casing resulting in exposure if internal components	P

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Reasonably foreseeable misuse	See below	P
7.3.1	External short circuit (cell)	Considered	P
	The cells were tested until one of the following occurred: - 24 hours elapsed; or		N/A
	- The surface temperature declined by 20% of the maximum temperature rise	Considered	P
	Results: No fire， no explosion..... :	No fire. No explosion (See Table 7.3.1)	P
7.3.2	External short-circuit (battery)	Considered	P
	The batteries were tested until one of the following occurred: - 24 hours elapsed; or	Considered	P
	- The case temperature declined by 20% of the maximum temperature rise		P
	In case of rapid decline in short circuit current, the battery 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 were conducted on one to four of the five samples before conducting the short-circuit test		P
	Results: No fire, no explosion ..... :	No fire, no explosion (See Table 7.3.2)	P
7.3.3	Free fall		P
	Results: No fire, no explosion.	No fire, no explosion.	P
7.3.4	Thermal abuse (cells)	Considered	P
	The cells were held at 130°C ± 2°C for 30 minutes;	Considered	P
	Oven temperature (°C)..... :	The oven temperature was raised at a rate of 5°C/min ± 2°C/min to a temperature of 130°C± 2°C.	--
	Results: No fire, no explosion.	No fire, no explosion	P
7.3.5	Crush (cells)	Considered	P
	The crushing force was released upon: - The maximum force of 13 kN ± 0,78 kN has been applied; or	Considered	P
	- An abrupt voltage drop of one-third of the original voltage has been obtained; or		N/A

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
	Results: No fire, no explosion ..... :	No fire, no explosion (See Table 7.3.5)	P
7.3.6	Over-charging of battery		P
	Sample batteries be charged at a constant current of 2.0 It A, using a 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		N/A
	- 1.2 times the upper limit charging voltage presented in Table A.1 per cell for series connected multi-cell batteries, and		P
	- 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: - 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 ..... :		P
7.3.7	Forced discharge (cells)		P
	- The discharge voltage reaches the negative value of upper limit charging voltage within the testing duration, the voltage 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 terminated at the end of the testing duration		P
	Results: No fire. No explosion..... :	(See Table 7.3.7)	P
7.3.8	Mechanical tests (batteries)	Considered	P
7.3.8.1	Vibration		P
	Results: No fire, no explosion, no rupture, no leakage or venting.		P
7.3.8.2	Mechanical shock		P
	Results: No leakage, no venting, no rupture, no explosion and no fire during test		P
7.3.9	Design evaluation – Forced internal short circuit (cells)	Considered	N/A
	The cells complied with national requirement for ..... :	France, Japan, Republic of Korea and Switzerland.	--

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
	The pressing was stopped upon: - A voltage drop of 50 mV has been detected; or		P
	- The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) has been reached	400N	P
	Results: No fire ..... :	(See Table 7.3.9)	P
8	**Information for safety**		**P**
8.1	**General**		
	The manufacturer of secondary cells ensures that information is provided about current, voltage and temperature limits of their products.	Showed in specification for battery	P
	The manufacturer of batteries ensures that equipment manufacturers and, in the case of direct sales, end-users are provided with information to minimize and mitigate hazards.	Information for safety mentioned in manufacturer's specification.	P
	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, information relating to hazard avoidance resulting from a system analysis is provided to the end user ..... :		N/A
8.2	Small cell and battery safety information	small battery.	P
	Small cells and batteries and equipment using small cells and batteries are to be provided with information regarding ingestion hazards		P
	Small cells and batteries that may pose an ingestion hazard are those that can fit within the limits of the ingestion gauge shown in Figure 3.		P
	The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them: -Keep small cells and batteries which are considered swallowable 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	See below.	N/A
	Cells marked as specified in IEC 61960		N/A

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
	Coin cells whose external surface area is too small to accommodate the markings on the cells show the designation and polarity		N/A
9.2	Battery marking	See below.	P
	Batteries marked as specified in IEC 61960		P
	Coin batteries whose external surface area is too small to accommodate the markings on the batteries show the designation and polarity		N/A
	Batteries marked with an appropriate caution statement.	Information for safety mentioned in manufacturer's specification.	N/A
	Terminals have clear polarity marking on the external surface of the battery		P
	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		P
9.3	Caution for ingestion of small cells and batteries		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		N/A
	When small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion given on the immediate package		N/A
9.4	Other information	See below.	P
	Storage and disposal instructions marked on or supplied with the battery.	Information for safety mentioned in manufacturer's specification.	P
	Recommended charging instructions marked on or supplied with the battery.	Information for safety mentioned in manufacturer's specification.	P
10	**Packaging and transport**		**P**
	Packaging for coin cells shall not be small enough to fit within the limits of the ingestion gauge of Figure 3	Considered.	P

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict

Annex A	**Charging range of secondary lithium ion cells for safe use**		**P**
A.1	General		P
A.2	Safety of lithium-ion secondary battery		P
A.3	Consideration on charging voltage		P
A.3.1	General		P
A.3.2	Upper limit charging voltage	4.2V 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	4.2V 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		N/A
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 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 high temperature range		N/A
A.4.3.4	Safety consideration when specifying new upper limit in high temperature range		N/A
A.4.4	Low temperature range	Not lower than the temperature specific in this standard.	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 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

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict
A.4.6.2	Final discharge voltage and explanation of safety viewpoint	Battery specified final voltage 3V, not exceed 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
	The insertion procedure carried out at 20°C±5°C and under -25 °C of dew point		P
A.5.3	Disassembly of charged cell		P
A.5.4	Shape of nickel particle		P
A.5.5	Insertion of nickel particle to cylindrical cell		N/A
A.5.5.1	Insertion of nickel particle to winding core		N/A
A.5.5.2	Marking the position of nickel particle on the both ends of 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 inernalshort-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
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

IEC 62133-2:2017/AMD1:2021			
Clause	Requirement + Test	Result - Remark	Verdict

Annex E	Packaging and transport	P
Annex F	Component standards references	P

	TABLE: Critical components information				P
Object/part no.	**Manufacturer/ trademark**	**Type/model**	**Technical data**	**Standard**	**Mark(s) of conformity**
Cell	Yongzhou An'anxin Technology Co., Ltd.	131730	3.7V 550mAh	GB31241-2022	Tested with appliance
-Positive electrode	Jiangmen Keheng Industrial Co., Ltd.	100%LCO-103S（Co）	Material system: Lithium Cobalt Oxide $LiCoO_2$ Current collector material: Al Foil; Dimensions: 365±10mm×21.5±0.15 mm×0.90±0.01mm; Specific capacity: 142mAh/g	----	Tested with appliance
-Negative electrode	Ganzhou Ruifute Ectronics Co., Ltd.	AGF-6	Material: Graphite Dimensions: Current collector material:Cu Foil; 390±10mm×22±0.15m m×0.092±0.01mm; Specific capacity: 345mAh/g;	----	Tested with appliance
-Electrolyte	Xiamen Shouneng Technology Co., Ltd.	SN3403	Composition: EC: EMC:DMC=3.2:2.5:4.3 LiPF6 1mol/L; Conductivity: 10.50mS/cm;	----	Tested with appliance
-Separator	Shenzhen Baojuhe New Material Technology Application Co., Ltd.	13μm Wet-laid separator	Material: PE Wet-laid separator; Dimensions(尺寸): 0.013±0.002mm×24.0± 0.5mm; Shutdown temperature: 130°C;	----	Tested with appliance
Supplementary information: 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}, (A)**	**OCV at start of test, (Vdc)**	**Results**
Cell #1	4.2	1.65	4.17	A, B
Cell #2	4.2	1.65	4.18	A, B
Cell #3	4.2	1.65	4.18	A, B
Cell #4	4.2	1.65	4.17	A, B
Cell #5	4.2	1.65	4.17	A, B
Supplementary information:				
A - No fire or explosion	B - No leakage	C – Leakage		
D - Fire	E - Explosion	F - 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, (Ω)**	**Maximum case temperature ~~rise~~ ΔT, (°C)**	**Results**
Samples charged at charging temperature upper limit (45°C)					
Cell #6	55.7	4.17	87	106.7	A
Cell #7	55.7	4.18	85	107.2	A
Cell #8	55.7	4.18	86	104.8	A
Cell #9	55.7	4.17	87	106.7	A
Cell #10	55.7	4.18	88	107.3	A
Samples charged at charging temperature lower limit (0°C)					
Cell #11	55.8	4.12	87	102.2	A
Cell #12	55.8	4.12	92	103.5	A
Cell #13	55.8	4.13	86	101.7	A
Cell #14	55.8	4.12	84	101.4	A
Cell #15	55.8	4.13	89	100.5	A
Supplementary information:					
A - No fire or explosion	B – Fire	C – Explosion	D – The test was completed after 24 h		
E – The test was completed after the cell casing cooled to 20% of the maximum temperature rise					

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 (°C)**	**Component single fault condition**	**Results**
Battery #4	24.9	4.18	85	104.5	MOSFET S-C.	A
Battery #5	24.8	4.18	87	101.8	MOSFET S-C.	A
Battery #6	24.8	4.17	88	98.7	MOSFET S-C.	A
Battery #7	24.8	4.18	85	97.4	MOSFET S-C.	A
Battery #8	24.9	4.17	88	24.3	--	A
Supplementary information:						
A - No fire or explosion B - Fire C - Explosion						
D - Others (please explain)						

7.3.5	TABLE: Crush(Cell)				P
Sample no.	**OCV at start of test, (Vdc)**	**OCV at removal of crushing force, (Vdc)**	**Width/ diameter of cell before crush, (mm)**	**Maximum force applied to the cell during crush (kN)**	**Results**
Samples charged at charging temperature upper limit (45°C)					
Cell #29	4.18	4.18	--	13	A
Cell #30	4.17	4.17	--	13	A
Cell #31	4.17	4.17	--	13	A
Cell #32	4.18	4.18	--	13	A
Cell #33	4.18	4.18	--	13	A
Samples charged at charging temperature lower limit (0°C)					
Cell #34	4.12	4.12	--	13	A
Cell #35	4.13	4.13	--	13	A
Cell #36	4.13	4.13	--	13	A
Cell #37	4.12	4.12	--	13	A
Cell #38	4.12	4.12	--	13	A
Supplementary information:					
A - No fire or explosion B - Fire C - Explosion					
D - Others (please explain)					

7.3.6	TABLE: Over-charging of battery				P
Constant charging current (A) ..... :		1.1			--
Supply voltage (Vdc) ..... :		5.04			--
Sample no.	**OCV before charging, (Vdc)**	**Total charging time (minute)**	**Maximum outer casing temperature, (°C)**	**Results**	
Battery #12	4.17	90	25.6	-	
Battery #13	4.17	90	25.5	-	
Battery #14	4.18	90	25.5	-	
Battery #15	4.17	90	25.3	-	
Battery #16	4.18	90	25.4	-	
Supplementary information:					
A - No fire or explosion B - Fire C - Explosion					
D - Others (please explain)					

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**
Cell #39	3.32	0.55	3.0	A
Cell #40	3.34	0.55	3.0	A
Cell #41	3.31	0.55	3.0	A
Cell #42	3.33	0.55	3.0	A
Cell #43	3.31	0.55	3.0	A
Supplementary information:				
A - No fire or explosion B - Fire C - Explosion				
D - Others (please explain)				

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**
Battery #17	4.18	4.18	15.427	15.427	A, B, C, D
Battery #18	4.18	4.18	15.524	15.524	A, B, C, D
Battery #19	4.17	4.17	15.227	15.227	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**
Battery #20	4.17	4.17	15.632	15.632	A, B, C, D
Battery #21	4.17	4.17	15.574	15.574	A, B, C, D
Battery #22	4.18	4.18	15.347	15.347	A, B, C, D
Supplementary information:					
A - No fire or explosion		B - No rupture		C - No leakage	
D - No venting		E - Others (please explain)			

7.3.9	TABLE: Forced internal short circuit (cells)				P
Sample no.	**Chamber ambient, (°C)**	**OCV at start of test, (Vdc)**	**Particle location [1)]**	**Maximum applied pressure, (N)**	**Results**
Samples charged at charging temperature upper limit (45°C)					
Cell #44	45	4.18	1	400	A
Cell #45	45	4.17	1	400	A
Cell #46	45	4.18	1	400	A
Cell #47	45	4.17	1	400	A
Cell #48	45	4.17	1	400	A
Samples charged at charging temperature lower limit (0°C)					
Cell #49	0	4.13	1	400	A
Cell #50	0	4.13	1	400	A
Cell #51	0	4.12	1	400	A
Cell #52	0	4.12	1	400	A
Cell #53	0	4.13	1	400	A
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.					
A - No fire		B – Fire		C - Others (please explain)	

Attachment 1
Photo Documentation

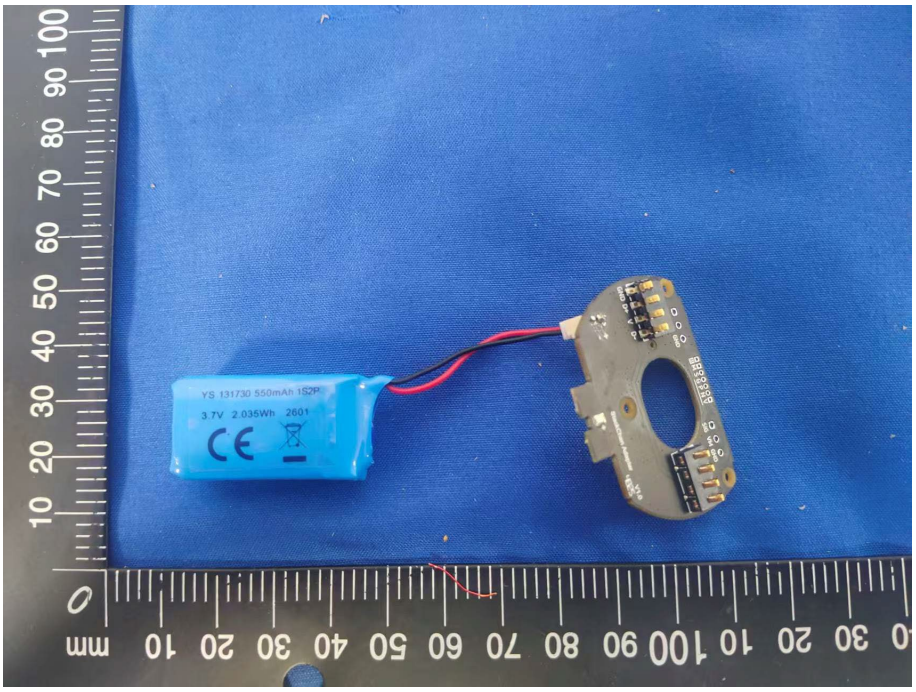


Figure 1

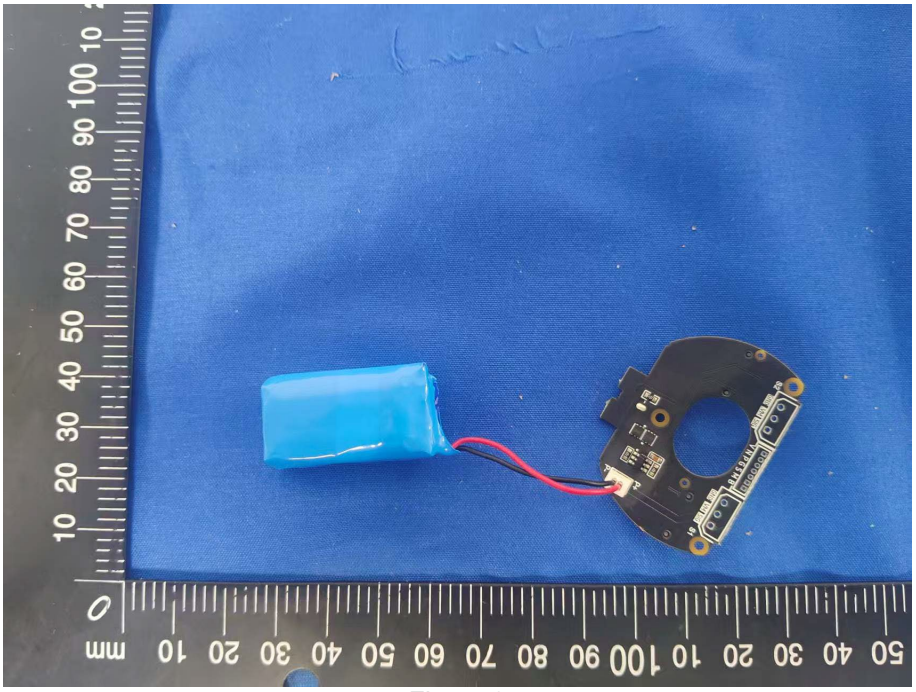


Figure 2

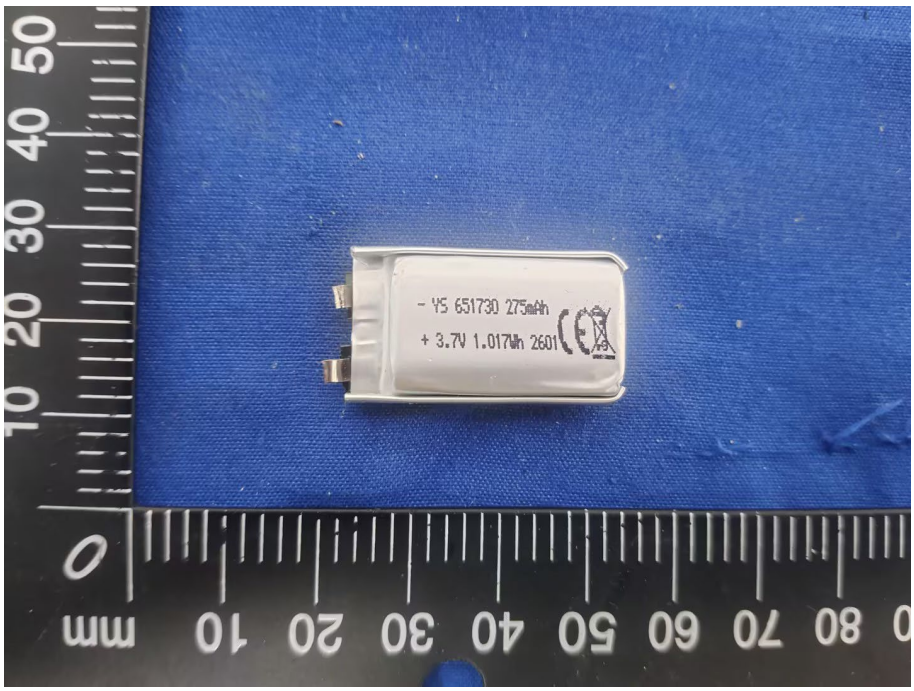


Figure 3

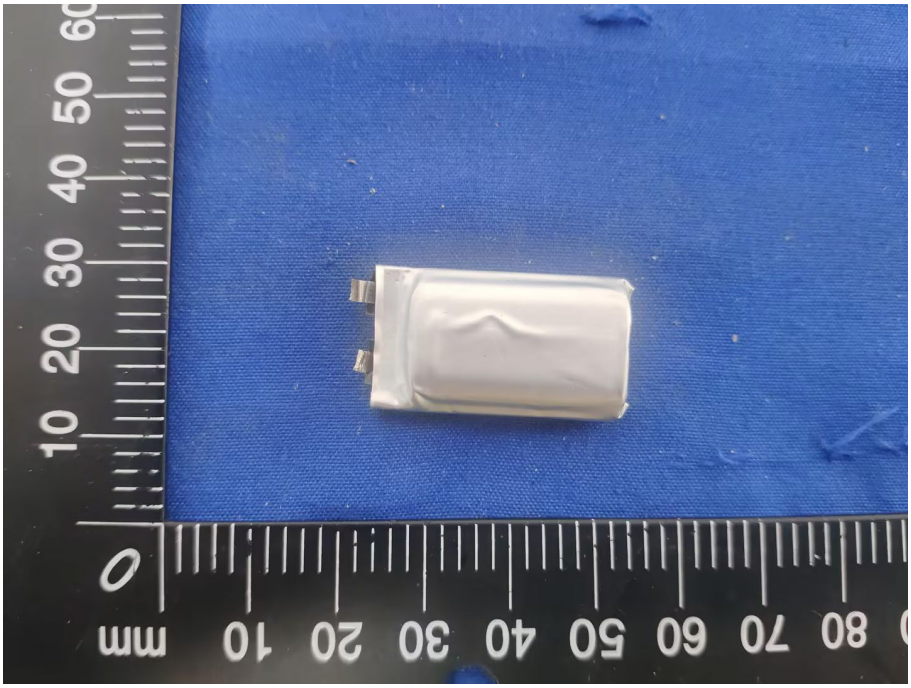


Figure 4

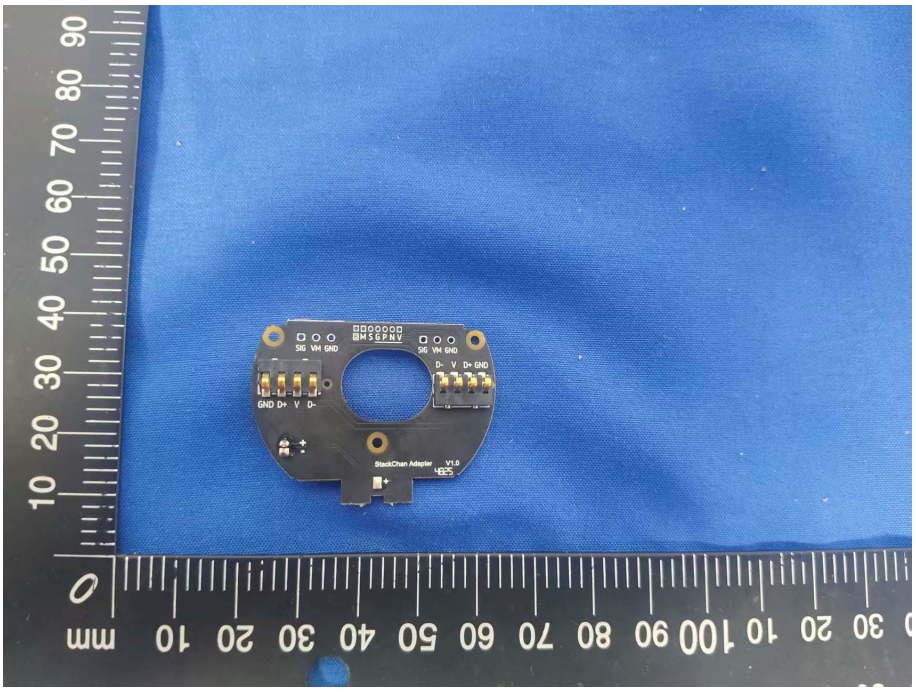


Figure 5

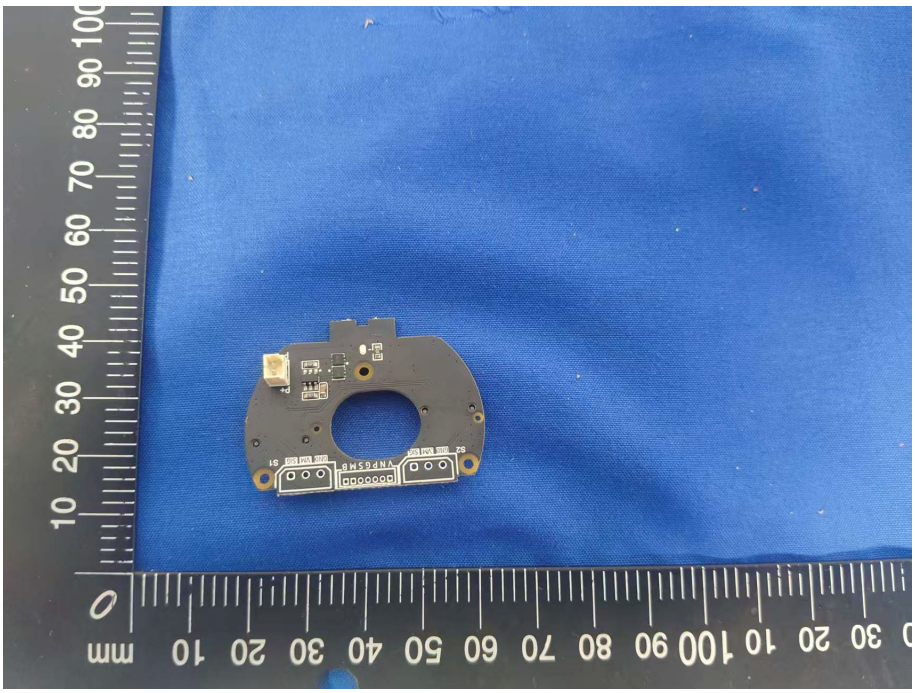


Figure 6

====== End of Report ======