



Certificate of Conformity

Certificate No.:

RSZBHST250317623-CN

Report No. 試験報告書番号 : RSZBHST250317623
Applicant 申請者 : SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD
202, Building A2, Silicon Valley Power Intelligent Terminal
Address 番地 : Industrial Park, No. 20, Dafu Industrial Zone, Kukeng
Community, Guanlan Street, Longhua District, Shenzhen China
Manufacturer 製造者 : Shenzhenshi jiuliyuan electronic technology co.,LTD
Address 番地 : 3 Floor, 1 Block, NO. 41, Yanhe Road, Anliang Community,
Henggang Street, Longgang District, Shenzhen

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Product name 商品名 : Rechargeable Polymer Li-ion Battery
Model No. モデル : WP55
Test specification 適用した試験基準 : 経済産業省技術要求条例の解釈について(R05.05.01)別表第十二
JIS C 62133-2:2020

assessments of other products with same design to the evaluated item.

Remark:

特定電気製品以外のために、報告をしなければ、関連した法律のこの必要条件を報告しているシンボルを観察するサプライヤーの名を密着マークする必要があります。 For Non-Specified Electrical Appliances and Materials, the Notifying Supplier shall comply with the relevant DENAN Law, and the name of Notifying Supplier shall be marked close together to the required symbol (PS)E. この試験結果証明書を我々のテストに基づいています。ここにそれを同時に試験報告書の一部として使用されるべきです。

This test result certificate is based on our testing. Hereby it should be used as a part of the testing report simultaneously.



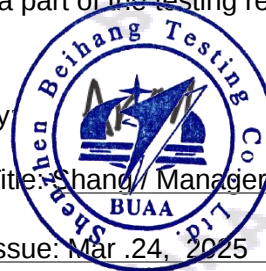
Shenzhen Beihang Testing Co., Ltd.

Room 202, 2/F, Building F, HaoWei
Industrial Park, QingSong West
Road, PingShan District, Shenzhen,
Guangdong, China/518000

Issued By

Name / Title: Shang / Manager

Date of Issue: Mar .24, 2025



証明書番号 Certificate: RSZBHST250317623-CN

WP55

型式の区分

Type Classification

単電池の形状 Figure of single cells	☐ 円筒形のもの Cylindrical ☐ 角形のもの Prismatic ☒ その他のもの others
単電池の電解質の種類 Electrolyte type of single cells	☐ 液体状のもの liquid state ☒ その他のもの others
単電池の上限充電電圧 Upper Limited charging voltage	☐ 4.25V 以下のもの 4.25V below ☒ 4.25V を超えるもの 4.25V above
組電池の質量 Weight of battery packs	☒ 7 Kg 以下のもの 7 kg below ☐ 7 Kg を超えるもの 7kg above
電池ブロックの個数 Number of cells	☐ 1 個のもの single cell ☒ 2 個以上のもの two or more than
過充電の保護機能 Mode of protective device	☒ 組電池で制御するもの A protective device in the battery pack ☐ 組電池搭載機器又は充電器で制御するもの A protective device in the charger used with the battery packs.
用途 Usage	☐ 携帯機器用のもの portable devices ☒ 卓上機器用のもの On-table devices ☐ その他のもの others
組電池の種類 Type of battery pack	☒ はんだ付けその他の接合方法により、容易に取り外すことができない状態で機械器具に固定して用いられるものその他の特殊な構造のもの By soldering or bonding method. the special structure of the other state that cannot be easily removed by fixed equipment ☐ その他のもの others

Arvin Shang

年 月 日:

BUAA



2025.03.22





中国认可
国际互认
检测
TESTING
CNAS L7500

Test Report issued under the responsibility of:



TEST REPORT JIS C 62133-2:2020 Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems	
Report Number.....	RSZBHST250317623
Date of issue.....	2025-03-17
Total number of pages	31
Name of Testing Laboratory preparing the Report	Shenzhen Beihang Testing Co., Ltd.
Applicant's name	SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD
Address.....	202, Building A2, Silicon Valley Power Intelligent Terminal Industrial Park, No. 20, Dafu Industrial Zone, Kukeng Community, Guanlan Street, Longhua District, Shenzhen China
Manufacturer	Shenzhenshi jiuliyuan electronic technology co.,LTD
Address.....	3 Floor, 1 Block, NO. 41, Yanhe Road, Anliang Community, Henggang Street, Longgang District, Shenzhen
factory	Shenzhenshi jiuliyuan electronic technology co.,LTD
Address.....	3 Floor, 1 Block, NO. 41, Yanhe Road, Anliang Community, Henggang Street, Longgang District, Shenzhen SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD
Model/Type reference	WP55
Trade Mark.....	N/A
Ratings	3.87V,11000mAh,41.57Wh
Test item description.....	Li-Polymer Battery
Standard	JIS C 62133-2:2020
Test procedure	Test Report
Non-standard test method	N/A
General disclaimer: The test results presented in this report relate only to the object tested.	

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	Testing Laboratory:	Shenzhen Beihang Testing Co., Ltd.
Testing location/ address.....:		Room 202, 2/F, Building F, HaoWei Industrial Park, QingSong West Road, PingShan District, Shenzhen, Guangdong, China/518000
Tested by (name, function, signature).....:		Romy.Luo 
Approved by (name, function, signature)....:		Arvin.Shang 
Signature.....:		BUAA 
Tests performed (name of test and test clause): ☒ 7.2.1 Continuous charging at constant voltage (secondary cells) ☒ 7.2.2 Battery case stress at high ambient temperature (secondary batteries) ☒ 7.2.2A Temperature cycle ☒ 7.3.1 External short circuit (secondary cell) ☒ 7.3.2 External short circuit (secondary batteries) ☒ 7.3.3 Free fall ☒ 7.3.4 Thermal abuse (secondary cells) ☒ 7.3.5 Crush (cells) ☒ 7.3.6 Overcharge (secondary batteries) ☒ 7.3.7 Forced discharge (secondary cells) ☒ 7.3.8 Mechanical tests (secondary batteries) ☒ 7.3.8A Low pressure (secondary cells) ☒ 7.3.8B High-rate charge (secondary cells) ☒ 7.3.8C Falling of secondary battery installed in a device (secondary batteries) ☒ 7.3.8D Overcharge protection (secondary batteries) ☒ 7.3.9 Forced internal short circuit (secondary cells) ☐ Annex D Measurement of the internal AC resistance for coin cells		Testing location: Shenzhen Beihang Testing Co., Ltd. Room 202, 2/F, Building F, HaoWei Industrial Park, QingSong West Road, PingShan District, Shenzhen, Guangdong, China/518000

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

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.

Remark: "2024.12" represents the date of manufacture, "2024" represents year of manufacture, "12" represents the month of manufacture.



marking



DC supply

Summary of testing:

The submitted samples were found to comply with the above test specification.



JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

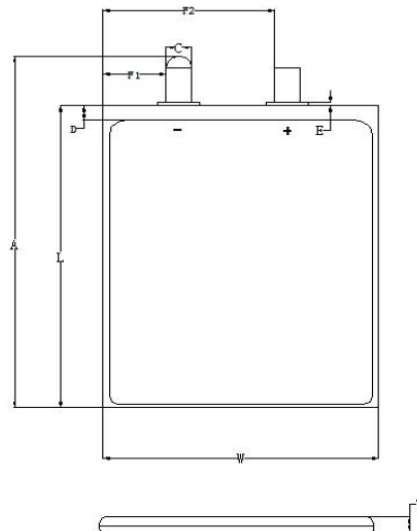
Test item particulars.....: --
Classification of installation and use.....: Battery for special end products
Supply connection.....: DC supply
Possible test case verdicts: - test case does not apply to the test object.....: N/A - test object does meet the requirement.....: P (Pass) - test object does not meet the requirement.....: F (Fail)
Date of receipt of test item: 2025-02-08
Date (s) of performance of tests: 2025-02-09—2025-03-13
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. <i>Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.</i> <i>Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.</i>

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

General product information and other remarks:

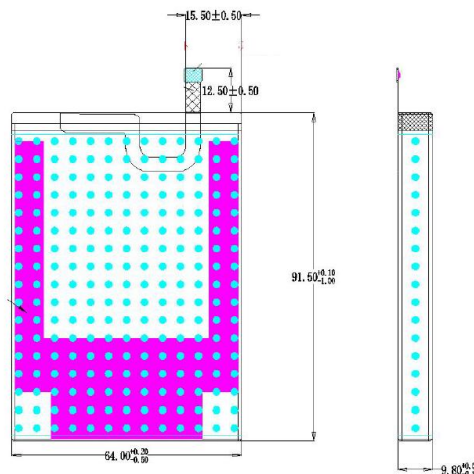
Product name	Rechargeable Li-ion Cell	Rechargeable Li-ion Battery
Type/model	486488	WP55
Nominal voltage	3.87Vd.c.	3.87Vd.c.
Rated capacity	5500mAh	11000mAh
Recommended charging voltage	4.45V	4.45V
Nominal charging current	1100mA	2200mAh
Nominal discharging current	1100mA	2200mAh
Maximum charging current	4400mA	5000mA
Maximum discharging current	4400mA	5000mA
Discharge cut-off voltage	3.0V	3.0V
Charging temperature	0-55℃	0-55℃
charging cut off current	110mA	220mA

Dimension of the Cell: (mm)



5.05mm(T) x 64.0mm(W) x 88.0mm(L)

Dimension of the Battery: (mm)



T*W*L: 9.8*54.0*91.5

TRF No. IEC62133_2A

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Rev.: 4.0
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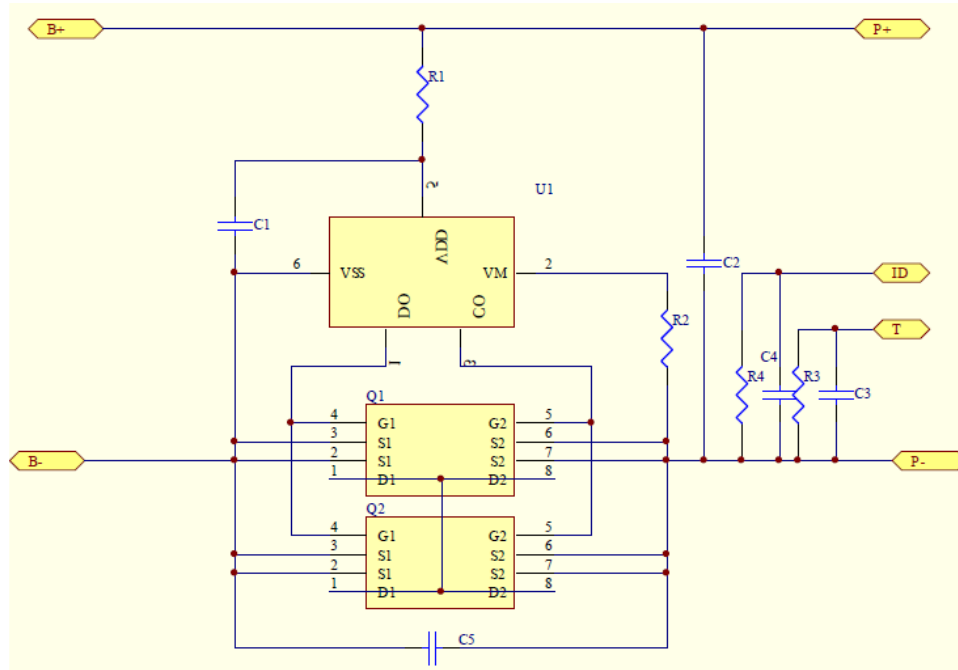
Website: <http://www.hc-stc.net>
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Industrial Park, QingSong West Road, PingShan
District, Shenzhen, Guangdong, China/518000 .

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Clause	Requirement + Test	Result - Remark	Verdict

Circuit schematic diagram:



JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

4	PARAMETER MEASUREMENT TOLERANCES		P
	Parameter measurement tolerances		P

5	GENERAL SAFETY CONSIDERATIONS		P
5.1	General		P
	Cells and batteries so designed and constructed that they are safe under conditions of both intended use and reasonably foreseeable misuse		P
5.2	Insulation and wiring		P
	The insulation resistance between the positive terminal and externally exposed metal surfaces of the battery (excluding electrical contact surfaces) is not less than 5 MΩ	No externally exposed metal surfaces.	N/A
	Insulation resistance (MΩ)..... :		—
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements		P
	Orientation of wiring maintains adequate clearance and creepage distances between conductors		P
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse		P
5.3	Venting		P
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition	The vents 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		P
5.4	Temperature, voltage and current management	See Below	P
	Secondary Batteries are designed such that abnormal temperature rise conditions are prevented	Overcharge, over discharge, over current and short-circuit proof circuit used in this battery.	P
	Secondary Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer	See above.	P
	The cell manufacturer shall provide the information of temperature, voltage and current limits to the battery manufacturer.	The charging limits specified in the cell manufacturer's specifications.	P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The battery manufacturer shall provide the information of temperature, voltage and current limits to the equipment manufacturer.	The charging limits specified in the battery manufacturer's specifications.	P
5.5	Terminal contacts		P
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current	Complied.	P
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance	Complied.	P
	Terminal contacts are arranged to minimize the risk of short-circuit	Complied.	P
5.6	Assembly of cells into secondary batteries		P
5.6.1	General		P
	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		P
	This protection may be provided external to the battery such as within the charger or the end devices	The protection circuit is on the battery itself	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		P
	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
	Secondary 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		P
	Protective circuit components added as appropriate and consideration given to the end-device application		P
	The manufacturer of the battery provide a safety analysis of the battery safety circuitry with a test report including a fault analysis of the protection circuit under both charging and discharging conditions confirming the compliance		P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.2	Design recommendation		P
	The voltage of each secondary cell, or each cell block constituting the secondary battery, shall not exceed the upper limit charging voltage specified in Table 2. However, when there is the function to restrict these charging voltages of each cell or each cell block to not more than the upper limit charging voltage in the portable electronic device side, it shall be confirmed that the upper limit charging voltage is not exceeded in the electronic device side.		P
	a) For the secondary 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	1S2P, Max. Charging voltage of cell: 4.45V, not exceed 4.45V specified in Clause 7.1.2, Table 2.	P
	b) For the secondary 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 cell blocks		N/A
	c) For the secondary battery consisting of series-connected plural secondary cells or series-connected plural cell blocks, charging shall be stopped when the upper limit charging voltage is exceeded for any one of the single secondary cells or single cell blocks by measuring the voltage of every single secondary cell or the single cell blocks.		N/A
	d) For secondary batteries consisting of series-connected plural secondary cells or cell blocks, nominal charge voltage of the charger shall not be counted as an overcharge protection.		N/A
	e) For secondary batteries consisting of series-connected secondary cells or cell blocks, secondary cells have closely matched capacities, be of the same design, be of the same chemistry and be from the same manufacturer		N/A
	f) It is recommended that the secondary cells and secondary cell blocks not discharged beyond the cell manufacturer's specified final voltage	Specified final voltage 3.0V, not exceed 3.0V specified by cell manufacturer	P
	g) For secondary batteries consisting of series-connected cells or cell blocks, cell balancing circuitry incorporated into the battery management system		P
5.6.3	Mechanical protection for secondary cells and components of secondary batteries		P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Mechanical protection for secondary cells, cell connections and control circuits within the secondary battery 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 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	The mechanical protection can be provided by the battery case and it can be provided by the end product	P
	The secondary 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 secondary batteries intended for building into a portable end product, testing with the battery installed within the end product considered when conducting mechanical tests		P
5.6.3A	Prevention of harm from sharp corners		P
	the secondary cells and batteries, unless functionally necessary, there shall be no uneven corners or sharp corners which may cause harm on the occasion of intended use. When the corners concerned are functionally necessary for the container, joint, etc. of the secondary cells and batteries, structural protective measures shall be taken so that the user (the consumer) may not touch. However, for the secondary cells, or secondary batteries of special structure in which it is not assumed that the user (the consumer) handles, measures may be taken as agreed between the interested parties. Compliance is checked by visual inspection.	No uneven corners or sharp corners	P
5.7	Quality plan		P

JIS C 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	The cell and battery manufacturers shall prepare and implement a quality plan that defines procedures for the inspection of materials, components, secondary cells and secondary batteries and which covers the whole process of producing each type of secondary cell or battery. The cell and battery manufacturers should understand their process capabilities and should institute the necessary process controls as they relate to product safety.	P
5.8	Battery safety components		N/A
	According annex F	See TABLE: Critical components information.	N/A

6	TEST ITEMS AND SAMPLE SIZE		P
	Tests are made with the number of secondary cells or batteries specified in Table 1 using secondary cells or batteries that are not more than six months old	Tests are performed according to specified in Table 1 of this standard. The samples 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 cell	N/A
	Unless otherwise specified, tests are carried out in an ambient temperature of $20^\circ\text{C} \pm 5^\circ\text{C}$	Tests are carried out at $20^\circ\text{C} \pm 5^\circ\text{C}$.	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		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 7.3.2	P

7	SPECIFIC REQUIREMENTS AND TESTS		P
7.1	Charging procedure for test purposes		P
7.1.1	First procedure		P
	This charging procedure applies to subclauses other than those specified in 7.2.1、7.2.2、7.2.2A、7.3.2、7.3.3、7.3.8.1、7.3.8.2、7.3.8A、7.3.8C		P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Unless otherwise stated in this standard, the secondary cells and batteries shall be charged in an ambient temperature of 20 °C ± 5 °C, using the method declared by the manufacturer.	See page 5	P
	Prior to charging, the secondary cell and battery shall have been discharged at an ambient temperature of 20 °C ± 5 °C at a constant current of 0.2 I t A down to the designed final voltage specified by the manufacturer.	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
	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 I t A, using a constant current to constant voltage charging method.	Charging temperature specified by client is 0-55 °C , 60 °C and -5°C were used as highest test temperature and lowest test temperature during tests.	P
7.2	Intended use		P
7.2.1	Continuous charging at constant voltage (secondary cells)	Tested complied.	P
	Test Fully charged secondary cells, according to the first procedure in 7.1.1, are subjected for 28 days to a charge at upper limit charging voltage and upper limit test temperature. After the test, visual inspection shall be performed.	Charging current: 1100mA, Charging voltage: 4.45V	P
	Results: No fire. No explosion. No leakage..... :	(See appended table 7.2.1)	P
7.2.2	Battery Case stress at high ambient temperature (battery)	Tested complied.	P
	Oven temperature (°C):	70°C	—
	Results :No physical distortion of the battery case resulting in exposure of internal protective components and cells..... :	No physical distortion of the battery case resulting in exposure of internal protective components and cells.	P
7.2.2A	Temperature cycle	Tested complied.	P
	Test Fully charged secondary cells or batteries, according to the first procedure in 7.1.1, are subjected to temperature cycling (-20 °C, +75 °C), in forced draught, chambers, according to the following procedure and the temperature profile shown in Figure OA.		P
	Results: No fire. No explosion. No leakage..... :	No fire. No explosion. No leakage	P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Reasonably foreseeable misuse		P
7.3.1	External short-circuit (secondary cell)	Tested complied.	P
	Fully charged secondary cells, according to the second procedure in 7.1.2, are stored in an ambient temperature of $55^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 1 h to 4 h. Each secondary cell is then short-circuited by connecting the positive and negative terminals with a total external resistance of $80\text{ m}\Omega \pm 20\text{ m}\Omega$.		P
	The cells were tested until one of the following occurred:		P
	- 24 hours elapsed; or		N/A
	- until the surface temperature declines from the maximum temperature by 80 % (down to 20 %) of the maximum temperature rise (difference between the maximum temperature and ambient temperature), whichever is the sooner.		P
	Results: No fire. No explosion..... :	(See appended table 7.3.1)	P
7.3.2	External short-circuit (secondary battery)	Tested complied.	P
	Fully charged secondary batteries, according to the second procedure in 7.1.1, are stored in an ambient temperature of $55^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 1 h to 4 h. Each secondary cell is then short-circuited by connecting the positive and negative terminals with a total external resistance of $80\text{ m}\Omega \pm 20\text{ m}\Omega$.		P
	The batteries were tested until one of the following occurred:		P
	- 24 hours elapsed; or		N/A
	- until the surface temperature declines from the maximum temperature by 80 % (down to 20 %) of the maximum temperature rise (difference between the maximum temperature and ambient temperature), whichever is the sooner.		P
	In case of rapid decline in short circuit current, the battery pack remained on test for an additional one hour after the current reached a low end steady state condition		P
	A single fault in the discharge protection circuit conducted on one to four (depending upon the protection circuit) of the five samples before conducting the short-circuit test	Single fault conducted on 3 samples.	P
	A single fault applies to protective component parts such as MOSFET, fuse, thermostat or positive temperature coefficient (PTC) thermistor	Single fault applies on MOSFET Q1(2-7).	P
	Results: No fire. No explosion..... :	(See appended table 7.3.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
7.3.3	Free fall	1m	P
	Results: No fire. No explosion	No fire. No explosion	P
7.3.4	Thermal abuse (secondary cells)	Tested complied.	P
	Oven temperature (°C) :	130°C ,30min	—
	Results: No fire. No explosion	No fire. No explosion	P
7.3.5	Crush (secondary cells)	Tested complied.	P
	The crushing force was released upon:		P
	- The maximum force of 13 kN±0,78kN has been applied; or	13 kN	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	Overcharge secondary battery		P
	The supply voltage which is:		P
	- Use the value of 1.4 times the upper limit charging voltage presented in Table 2(but not to exceed 6.0 V) for single secondary cell/cell block batteries.	6.0V	P
	- Use the value of 1.2 times the product of the number of series by the upper limit charging voltage presented in Table 2 for series connected multi-cell batteries.		N/A
	- Use the power supply sufficient to maintain a constant current of 2.0 ItA , throughout the duration of the test or until the supply voltage is reached.	22.0A	P
	Test was continued until the temperature of the outer casing:		P
	- Reached steady state conditions (less than 10°C change in 30-minute period); or		N/A
	- Returned to ambient		P
	Results: No fire. No explosion..... :	(See appended table 7.3.6)	P
7.3.7	Forced discharge (secondary cells)		P
	If 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 (Case 1 of Figure 1)		N/A

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	If 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. (Case 2 of Figure 1)		P
	Results: No fire. No explosion..... :	(See appended table7.3.7)	P
7.3.8	Mechanical tests (secondary batteries)		P
7.3.8.1	Vibration(secondary batteries)	Tested complied.	P
	Results: No fire, no explosion, no rupture, no leakage or venting. :		P
7.3.8.2	Mechanical shock(secondary batteries)	Tested complied.	P
	Results: No leakage, no venting, no rupture, no explosion and no fire :		P
7.3.8A	Low pressure(secondary cells)	Tested complied.	P
	Results: No fire, no explosion, no leakage :		P
7.3.8B	High-rate charge (secondary cells)	Tested complied.	P
	The test shall be performed at upper limit test temperature or lower limit test temperature. When the discharged secondary cell is fully charged with the charging current of three times the maximum charging current, or when the corresponding electronic device or secondary battery before full charge has a protection element, charging shall be performed until charging current is broken by the actuation of the safety device of the protection element.		P
	Results: No fire, no explosion :		P
7.3.8C	Falling of secondary battery installed in a device (secondary batteries)	Tested complied.	P
	Results: Short-circuit shall not be caused inside the secondary battery and internal short-circuit shall not be caused in the secondary cell inside the secondary battery. :		P
7.3.8D	Overcharge protection (secondary batteries)	Tested complied.	p
	The charge voltage of the secondary cells or the cell block in which the secondary cells are connected in parallel inside the secondary battery shall not exceed the upper limit charging voltage in Table 2 irrespective of parameter measurement tolerances. This requirement does not apply to the electronic devices, etc. when charge voltage is controlled so as not to exceed the upper limit charging voltage.		p

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	1) When the secondary battery consists of secondary cells or one step of cell block, measure the voltage applied to the secondary cells or the cell block at the time of charge.		P
	2) In the case of the structure of the secondary battery in which two or more secondary cells or cell blocks are connected in series, charge while measuring the voltage of each secondary cell or cell block. At the same time, discharge single secondary cell or cell block gradually and compulsorily, and measure the voltage of each secondary cell or cell block of others.		N/A
	3) In the case of the structure of the secondary battery in which two or more secondary cells or cell blocks are connected in series, apply the voltage which exceeds the upper limit charging voltage in Table 2 to the secondary cell or cell block while measuring the voltage of each secondary cell or cell block, and measure the voltage when charge stops.		N/A
	Results: All the voltages measured according to any method shall not exceed the upper limit charging voltage. However, the voltage fluctuation (for example, voltage fluctuation of AC component of not less than 50 kHz supposing a ripple, noise, etc.) in which the migration of lithium ion does not follow in the cell is not included..... :		P
7.3.9	Design evaluation – Forced internal short-circuit (cells)	Tested complied.	P
	The cells complied with national requirement for :	France, Japan, Korea, Switzerland	—
	The pressing was stopped upon:		P
	- A voltage drop of 50 mV has been detected; or		N/A
	- The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) has been reached	400 N (prismatic cells)	P
	Results: No fire :	(See appended table7.3.9)	P
8	INFORMATION FOR SAFETY		P
8.1	General		P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The use, and particularly abuse, of portable sealed secondary lithium cells and batteries may result in the creation of hazards and may cause harm. Manufacturers of secondary cells shall ensure that information is provided about current, voltage and temperature limits of their products. Manufacturers of secondary batteries shall ensure that equipment manufacturers and, in the case of direct sales, end-users are provided with information to minimize and mitigate hazards (for example, marking guidelines for ensuring safety of small secondary cells and batteries for consumer use and secondary lithium cells and batteries for use in industrial applications issued by Battery Association of Japan).	Information for safety mentioned in manufacturer's specifications.	P
	It is the equipment manufacturer's responsibility to inform end-users of the potential hazards arising from the use of equipment containing secondary cells and batteries.	Information for safety mentioned in manufacturer's specifications.	P
	Systems analyses should be performed by equipment manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product. As appropriate, any information relating to hazard avoidance resulting from a system analysis should be provided to the end-user.	Supplied by the manufacturer to the end customer	P
	Non-exhaustive lists of good advice are provided for information in Annexes B and C.		P
	Conformity of safety information can be checked by examination of manufacturer's documentation	Supplied by the manufacturer to the end customer	
	Do not allow children to replace batteries without adult supervision	Big enough	N/A
8.2	Small secondary cell and battery safety information	Big enough	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

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
9.1	Secondary Cell marking	The final product is battery.	N/A
	Cells marked as specified in JIS C 8711, except coin cells		N/A
	Coin cells whose external surface area is too small to accommodate the markings on the cells show the designation and polarity		N/A
	By agreement between the secondary cell manufacturer and the secondary battery and/or end product manufacturer, component secondary cells used in the manufacture of a secondary battery need not be marked. However, when component secondary cells are not marked, the secondary cell marking shall be indicated with the secondary battery, the instructions or the specifications.		N/A
9.2	Secondary Battery marking		P
	Batteries marked as specified in JIS C 8711, except for coin cells	The battery is marked in accordance with JIS C 8711,	P
	Coin cells whose external surface area is too small to accommodate the markings on the batteries show the designation and polarity. Batteries also marked with an appropriate caution statement	Not coin battery.	P
	Terminals have clear polarity marking on the external surface of the Secondary battery		N/A
	Secondary 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	DC.	P
9.3	Caution for ingestion of small Secondary cells and batteries	Big enough	N/A
	Small secondary cells and batteries determined to be small according to 8.2 shall include a caution statement regarding the hazards of ingestion in accordance with 8.2.		N/A
	When small secondary cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion shall be given on the immediate package.		N/A
9.4	Other information		P
	Storage and disposal instructions	Information for disposal instructions mentioned in manufacturer's specifications.	P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Recommended charging instructions	Information for disposal instructions mentioned in manufacturer's specifications.	P

10	PACKAGING AND TRANSPORT		P
	Packaging for coin cells not small enough to fit within the limits of the ingestion gauge of Figure 3	Not coin cells	N/A
	Refer to Annex E for information regarding packaging and transport. The materials and packaging design are chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of environmental contaminants		P

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		N/A
A.3.2.3	Safety requirements, when different upper limit charging voltage is applied	4.45V applied.	N/A
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
A.4.2.2	Safety consideration when a different recommended temperature range is applied	Charging temperature range declared by client is: 0-55°C	P
A.4.3	High temperature range	Charging high temperature declared by client is: 55°C	P
A.4.3.1	General		P
A.4.3.2	Explanation of safety viewpoint		P
A.4.3.3	Safety considerations when specifying charging conditions in the high temperature range		P
A.4.3.4	Safety considerations when specifying a new upper limit in the high temperature range	60°C applied.	P

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
A.4.4	Low temperature range	Charging low 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	-5°C applied.	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 Li-ion secondary 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
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

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict
A.6.9	Caution in the case of fire during disassembling		P
A.6.10	Caution for the disassembling process and pressing the electrode core		P
A.6.11	Recommended specifications for the pressing device		P
ANNEX B	RECOMMENDATIONS TO EQUIPMENT MANUFACTURERS AND BATTERY ASSEMBLERS		P
ANNEX C	RECOMMENDATIONS TO THE END-USERS		P
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 tableD.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		P
ANNEX F	COMPONENT STANDARDS REFERENCES		N/A

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE: Critical components information					
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity ¹⁾
Cell	Shenzhen jiuliyuan electronic technology co.,LTD	486488	3.87Vd.c., 5500mAh		Tested with appliance
-Electrolyte	Zhuhai Saiwei Electronic Materials Co., Ltd	SW-B004	LiPF6, EC, DEC, VC, EMC	--	--
- Separator	Shenzhen Heda New Material Technol ogy Co., Lt	16μm	PE 16um Thermal shrinkage 105℃ Shut down temperature (℃) : 130	--	--
-Positive Electrode	Jiangmen Keheng IndustrialCo.,Ltd	TE510	NCM5:2:3	--	--
-Negative Electrode	Shanghai Shanshan Tech co.,LTD	FSN-1	Graphite	--	--
PCB	LTD	RR-JLY-S123- 486488-1S2P- 4.45V-PCB	1.05±0.15*29±0.2± 0.03mm	--	--
FPC	HHX	R-JLY-S123- 486488-1S2P- 4.45V-FPC	60±0.15*8.5±0.1*0.8± 0.1mm	--	--
Protection IC (U1)	JINGGONG	S-8261DAQ	Overcharge detection voltage: 4.475V±0.025V, Overdischarge detection voltage: 2.8V±0.05V,	--	--
MOSFET (Q1/Q2)	CHANGDIAN	CJS8810A	VDS: 20V, VGS: ±12V, ID: 5A(TA=25℃), TJ: -55℃ to 150℃	--	--
NTC	SHUNRUO	10K	B=3380, ±1%	--	UL E335958
Supplementary information: 1) Provided evidence ensures the agreed level of compliance.					

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

7.2.1	TABLE: Continuous charging at constant voltage (secondary cells)					P
Sample no.	Ambient T (°C)	Recommend ed charging voltage, V _c , (Vdc)	Recommend ed charging current, I _{rec} , (A)	OCV before test (Vdc)	Results	
C1	60.0	4.45	1.1	4.377	P	
C2	60.0	4.45	1.1	4.375	P	
C3	60.0	4.45	1.1	4.373	P	
C4	60.0	4.45	1.1	4.378	P	
C5	60.0	4.45	1.1	4.376	P	
Supplementary information - No fire or explosion - No leakage - Others (please explain)						

7.3.1	TABLE: External short-circuit (secondary cell)					P
Sample no.	Ambient T (°C)	OCV before test (Vdc)	Resistance of circuit (mΩ)	Maximum case temperature (°C)	Results	
Samples charged at charging temperature upper limit (60°C)						
C6	55.3	4.441	85.8	123.8	P	
C7	55.3	4.436	83.9	124.4	P	
C8	55.3	4.439	87.2	126.2	P	
C9	55.3	4.438	84.6	121.8	P	
C10	55.3	4.437	88.2	125.5	P	
Samples charged at charging temperature lower limit (-5°C)						
C11	55.3	4.325	84.6	123.7	P	
C12	55.3	4.323	83.8	125.3	P	
C13	55.3	4.324	82.9	124.2	P	
C14	55.3	4.326	81.9	126.1	P	
C15	55.3	4.325	85.3	122.2	P	
Supplementary information: - No fire or explosion - Others (please explain)						

7.3.2	TABLE: External short-circuit (secondary battery)					P
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JIS C 62133-2						
Clause	Requirement + Test			Result - Remark		Verdict
Sample no.	Ambient T (°C)	OCV before test (Vdc)	Resistance of circuit (mΩ)	Maximum case temperature (°C)	Component single fault condition	Results
B1	23.5	4.376	87.4	123.2	MOSFET	P
B2	23.5	4.379	86.2	125.8	MOSFET	P
B3	23.5	4.381	87.3	127.5	MOSFET	P
B4	23.5	4.373	82.9	24.3	Normal	P
B5	23.5	4.378	84.6	24.2	Normal	P
Supplementary information: - No fire or explosion - Others (please explain) Mosfet (pinS-C) short circuit.						

7.3.5	TABLE: Crush (secondary 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 (60℃)					
C16	4.438	4.438	13.0	P	
C17	4.442	4.442	13.0	P	
C18	4.437	4.437	13.0	P	
C19	4.441	4.441	13.0	P	
C20	4.439	4.439	13.0	P	
Samples charged at charging temperature lower limit (-5℃)					
C21	4.325	4.325	13.0	P	
C22	4.323	4.323	13.0	P	
C23	4.326	4.326	13.0	P	
C24	4.323	4.323	13.0	P	
C25	4.328	4.328	13.0	P	
Supplementary information:					
- No fire or explosion					
- Others (please explain)					

7.3.6	TABLE: Overcharge secondary batteries		P
Constant charging current (A)		22.0A	—
Supply voltage (Vdc)		6.0V	—

JIS C 62133-2				
Clause	Requirement + Test		Result - Remark	Verdict
Sample no.	OCV before charging (Vdc)	cut-off condition (min)	Maximum outer case temperature (°C)	Results
B6	3.349	90min	41.4	P
B7	3.346	90min	37.9	P
B8	3.347	90min	38.5	P
B9	3.344	90min	36.7	P
B10	3.345	90min	40.3	P
Supplementary information: - No fire or explosion - Others (please explain)				

7.3.7	TABLE: Forced discharge (secondary cells)				P
Sample no.	OCV before application of reverse charge (Vdc)	Measured reverse charge I _r (A)	Lower limit discharge voltage (Vdc)	Results	
C26	3.342	5.5	3.0	P	
C27	3.345	5.5	3.0	P	
C28	3.343	5.5	3.0	P	
C29	3.346	5.5	3.0	P	
C30	3.344	5.5	3.0	P	
Supplementary information: - No fire or explosion - 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	
B11	4.373	4.372	130.477	130.475	P	
B12	4.377	4.375	130.267	130.263	P	
B13	4.375	4.373	130.339	130.334	P	
B14	4.378	4.377	130.298	130.294	P	
B15	4.374	4.374	130.369	130.358	P	
Supplementary information: - No fire or explosion - No rupture - No leakage - No venting - Others (please explain)						

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

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	
B16	4.372	4.372	130.475	130.474	P	
B17	4.375	4.375	130.263	130.262	P	
B18	4.373	4.373	130.334	130.333	P	
B19	4.374	4.372	130.377	130.375	P	
B20	4.378	4.376	130.425	130.423	P	
Supplementary information: - No fire or explosion - No rupture - No leakage - No venting - Others (please explain)						

7.3.8B	TABLE: High-rate charge (secondary cells)					P
Sample no.	Chamber ambient T (°C)	OCV before test (Vdc)	Maximum charge current, (A)	Maximum case temperature (°C)	Results	
Samples charged at charging temperature upper limit (N/A)						
C31	60	3.338	15.0	85.8	P	
C32	60	3.333	15.0	87.3	P	
C33	60	3.337	15.0	86.2	P	
C34	60	3.339	15.0	85.7	P	
C35	60	3.336	15.0	84.6	P	
Samples charged at charging temperature lower limit (N/A)						
C36	-5	3.337	15.0	15.8	P	
C37	-5	3.333	15.0	13.9	P	
C38	-5	3.335	15.0	14.4	P	
C39	-5	3.338	15.0	12.7	P	
C40	-5	3.336	15.0	14.7	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 - Others (please explain)						

JIS C 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

7.3.8D	TABLE: Overcharge protection (secondary batteries)					P
Sample no.	Number of cell	OCV after test (Vdc)	Open circuit voltage after the test (Vdc)	Maximum case temperature , (°C)	Results	
B21	1S2P	3.337	4.445	27.5	P	
Supplementary information: - No fire or explosion - No rupture - No leakage - No venting - Others (please explain)						

7.3.9	TABLE: Forced internal short circuit (secondary 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 (60°C)						
C31	60	4.435	1	400	P	
C32	60	4.438	1	400	P	
C33	60	4.437	1	400	P	
C34	60	4.436	1	400	P	
C35	60	4.439	1	400	P	
C36	60	4.434	1	400	P	
C37	60	4.436	1	400	P	
C38	60	4.435	1	400	P	
C39	60	4.437	1	400	P	
C40	60	4.438	1	400	P	
Samples charged at charging temperature lower limit (-5°C)						
C41	-5	4.325	1	400	P	
C42	-5	4.327	1	400	P	
C43	-5	4.322	1	400	P	
C44	-5	4.323	1	400	P	
C45	-5	4.326	1	400	P	
C46	-5	4.325	1	400	P	
C47	-5	4.327	1	400	P	
C48	-5	4.322	1	400	P	

JIS C 62133-2					
Clause	Requirement + Test			Result - Remark	Verdict

C49	-5	4.323	1	400	P
C50	-5	4.326	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

- Others (please explain)

D.2	TABLE: Internal AC resistance for coin cells				N/A
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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

Fig.1 –Front view of battery



Fig. 2 –Back view of battery



Fig.3 –Front view of Cell



Fig.4 –Back view of Cell

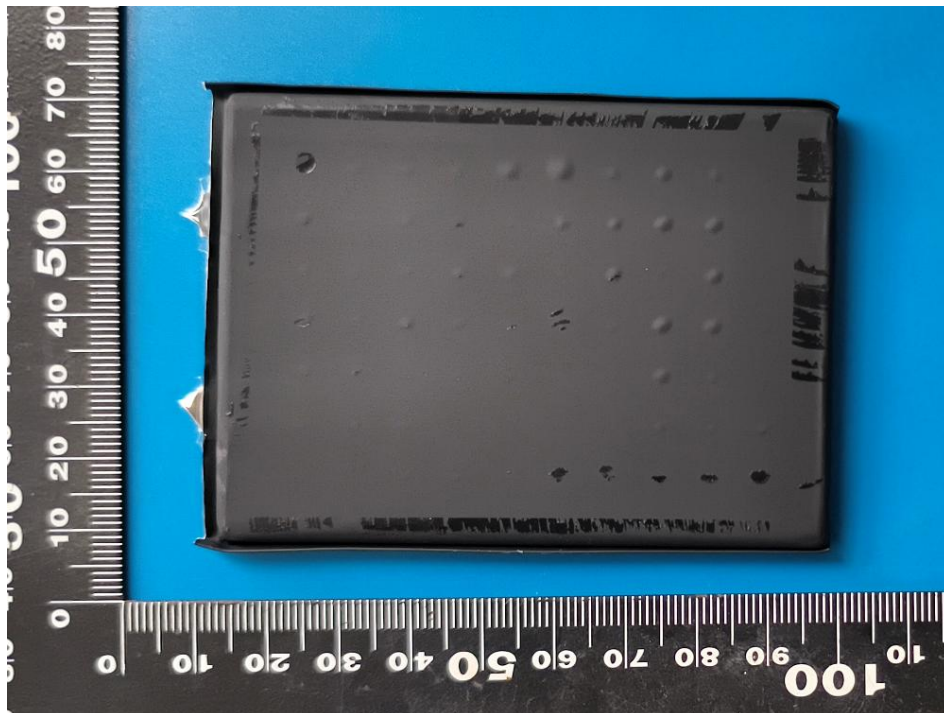
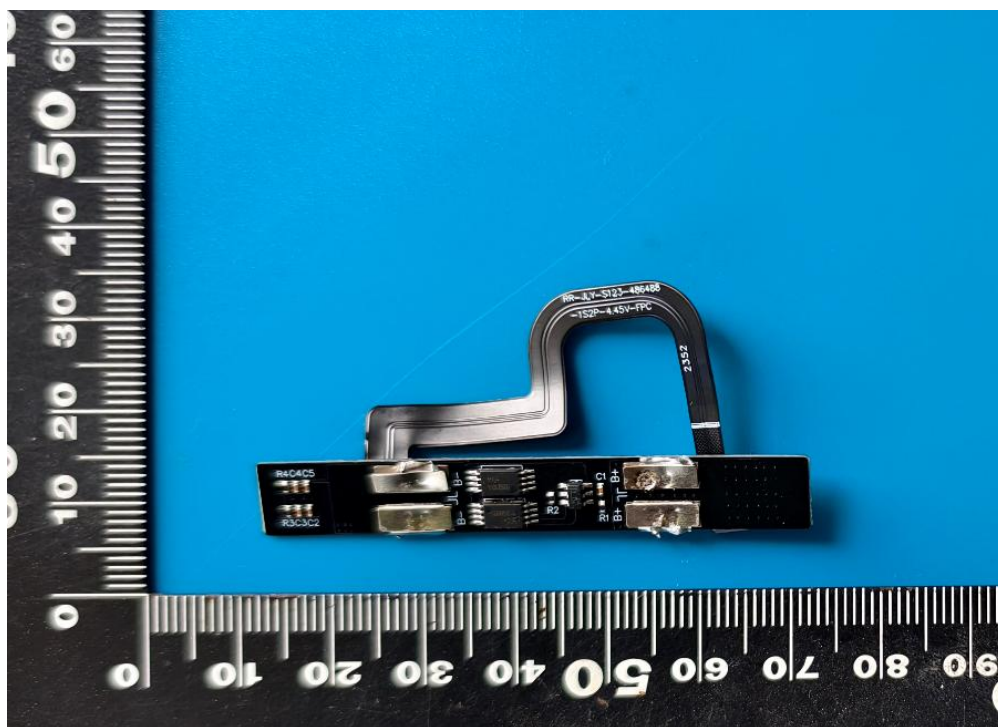


Fig.5 –Front view of PCM



Fig.6 –Back view of PCM



---End report---