Safety Data Sheet
acc. to OSHA HCS

Date of issue: 12/06/2025 Reviewed on 12/06/2025

1 Identification

· **Product identifier**

· **Trade name: Polymer Li-ion Battery 1260110 3.7V 10000mAh 37Wh**

· **Model No.:** 1260110

· **Other means of identification**

· **Application of the substance / the mixture** Use according to the instructions

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Manufacturer/Supplier:
Ganzhou Tuoyuan New Energy Co., Ltd.
Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou, Jiangxi, China
Contact: Kangmin Li
Tel:+86 13418874839
Email: eva_kangmin@126.com
Website: www.topfar-battery.com

· **Information department:** Ganzhou Tuoyuan New Energy Co., Ltd.

· **Emergency telephone number:** +86 13418874839

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS06 Skull and crossbones

Acute toxicity - inhalation 2	H330 Fatal if inhaled.

GHS08 Health hazard

Carcinogenicity 1A	H350 May cause cancer.
Reproductive toxicity 1B	H360 May damage fertility or the unborn child.
Specific target organ toxicity (repeated exposure) 1	H372 Causes damage to organs through prolonged or repeated exposure.

GHS07

Acute toxicity - dermal 4	H312 Harmful in contact with skin.
Sensitization - skin 1	H317 May cause an allergic skin reaction.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS06 GHS07 GHS08

· **Signal word** Danger

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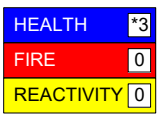
· **Hazard-determining components of labeling:**
cobalt lithium manganese nickel oxide
Lithium hexafluorophosphate(1-)
Carbon black
Styrene-Butadiene Rubber
· **Hazard statements**
Harmful in contact with skin.
Fatal if inhaled.
May cause an allergic skin reaction.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
[In case of inadequate ventilation] wear respiratory protection.
If on skin: Wash with plenty of water.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Immediately call a poison center/doctor.
IF exposed or concerned: Get medical advice/attention.
Specific treatment is urgent (see on this label).
Get medical advice/attention if you feel unwell.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Information pertaining to particular dangers for man and environment:**
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 4
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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· **Classification according to (d)(1)(ii) of § 1910.1200**
The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.
· **Hazards not otherwise classified**
There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
182442-95-1	cobalt lithium manganese nickel oxide	30–60%
7782-42-5	Graphite	10–30%
21324-40-3	Lithium hexafluorophosphate(1-)	10–30%
7440-50-8	copper	3–7%
7429-90-5	aluminium	1–5%
9003-55-8	Styrene-Butadiene Rubber	⩾0.1–<1%
1333-86-4	Carbon black	0.1–1%

· **Non-hazardous components**		
9002-88-4	Polyethylene low density	1–5%
24937-79-9	vinylidene fluoride	0.1–1%
9003-07-0	Polyolefin	0.1–1%
16291-96-6	carbon	0.1–1%
24937-16-4	Nylon 12	⩾0.1–<1%
9000-11-7	Carboxymethylcellulose	0.1–1%

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
21324-40-3	Lithium hexafluorophosphate(1-)	7.5 mg/m³
7440-50-8	copper	3 mg/m³
9002-88-4	Polyethylene low density	16 mg/m³
9003-07-0	Polyolefin	5.2 mg/m³
1333-86-4	Carbon black	9 mg/m³

· **PAC-2:**		
21324-40-3	Lithium hexafluorophosphate(1-)	83 mg/m³
7440-50-8	copper	33 mg/m³
9002-88-4	Polyethylene low density	170 mg/m³
9003-07-0	Polyolefin	58 mg/m³
1333-86-4	Carbon black	290 mg/m3

· **PAC-3:**		
21324-40-3	Lithium hexafluorophosphate(1-)	500 mg/m³
7440-50-8	copper	200 mg/m³
9002-88-4	Polyethylene low density	1,000 mg/m³
9003-07-0	Polyolefin	350 mg/m³
1333-86-4	Carbon black	1750 mg/m3

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and storage

· **Precautions for safe handling**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

7782-42-5 Graphite	
PEL	Long-term value: 15 mppcf* mg/m³ *impinger samples counted by light field techn.
REL	Long-term value: 2.5* mg/m³ *respirable dust
TLV	Long-term value: 2* mg/m³ all forms except graphite fibers;*resp. fraction
7440-50-8 copper	
PEL	Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
REL	Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
TLV	Long-term value: 0.2* 1** mg/m³ as Cu *fume **dust/mist
7429-90-5 aluminium	
PEL	Long-term value: 15*; 5** mg/m³ *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m³ as Al; *as respirable fraction, A4
1333-86-4 Carbon black	
PEL	Long-term value: 3.5 mg/m³

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REL	Long-term value: 3.5* mg/m³ *0.1 in presence of PAHs;See Pocket Guide Apps.A+C
TLV	Long-term value: 3* mg/m³ *inhalable fraction, A3

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**

· **Physical state**	Solid
· **Color:**	According to product specification
· **Odor:**	Characteristic

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· **Odor threshold:**	Not determined.
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	Undetermined.
· **Flammability:**	Not determined.
· **Explosion limits:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **pH-value:**	Not applicable.
· **Viscosity:**	
· **Kinematic:**	Not applicable.
· **Dynamic:**	Not applicable.
· **Solubility in / Miscibility with**	
· **Water:**	Soluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Vapor pressure:**	Not applicable.
· **Density:**	Not determined.
· **Relative density**	Not determined.
· **Vapor density**	Not applicable.
· **Particle characteristics**	Not determined.

· **Other information**	
· **Appearance:**	
· **Form:**	Solid
· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Solvent content:**	
· **VOC content:**	0.00 %
· **Change in condition**	
· **Evaporation rate**	Not applicable.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
ATE (Acute Toxicity Estimate)		
Oral	LD50	2,875 mg/kg
Dermal	LD50	1,725 mg/kg
Inhalative	LC50/4 h	0.107 mg/l

182442-95-1 cobalt lithium manganese nickel oxide		
Inhalative	LC50/4 h	0.05 mg/l (ATE)
21324-40-3 Lithium hexafluorophosphate(1-)		
Oral	LD50	500 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
1333-86-4 Carbon black		
Oral	LD50	10,000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Harmful
Irritant
Very toxic
· **Interactive effects** No interactive effects between components are known.

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
182442-95-1	cobalt lithium manganese nickel oxide	1
9002-88-4	Polyethylene low density	3
9003-07-0	Polyolefin	3
9003-55-8	Styrene-Butadiene Rubber	3
1333-86-4	Carbon black	2B

· NTP (National Toxicology Program)		
182442-95-1	cobalt lithium manganese nickel oxide	K

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

· **Alternative sources for toxicological information**
No non-standard sources for toxicological information where used.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT, IMDG, IATA**	UN3480
· **UN proper shipping name**	
· **DOT, IATA**	Lithium ion batteries
· **IMDG**	LITHIUM ION BATTERIES
· **Transport hazard class(es)**	
· **DOT, IMDG, IATA**	

· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9A
· **Packing group**	
· **DOT, IMDG, IATA**	not regulated
· **Environmental hazards:**	Not applicable.

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· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: Forbidden On cargo aircraft only: 35 kg
· **IMDG**	
· **Limited quantities (LQ)**	0
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **Special precautions for user**	Warning: Miscellaneous dangerous substances and articles
· **Hazard identification number (Kemler code):** -	
· **EMS Number:**	F-A,S-I
· **Stowage Category**	A
· **Stowage Code**	SW19 For batteries transported in accordance with SP 376 or SP 377 Category C, unless transported on a short international voyage.
· **UN "Model Regulation":**	UN 3480 LITHIUM ION BATTERIES, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

182442-95-1	cobalt lithium manganese nickel oxide
7440-50-8	copper
7429-90-5	aluminium

· **TSCA (Toxic Substances Control Act):**

182442-95-1	cobalt lithium manganese nickel oxide	ACTIVE
7782-42-5	Graphite	ACTIVE
21324-40-3	Lithium hexafluorophosphate(1-)	ACTIVE
7440-50-8	copper	ACTIVE
7429-90-5	aluminium	ACTIVE
9002-88-4	Polyethylene low density	ACTIVE
24937-79-9	vinylidene fluoride	ACTIVE
9003-07-0	Polyolefin	ACTIVE
16291-96-6	carbon	ACTIVE
9003-55-8	Styrene-Butadiene Rubber	ACTIVE
1333-86-4	Carbon black	ACTIVE
9000-11-7	Carboxymethylcellulose	ACTIVE

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· **Hazardous Air Pollutants**

182442-95-1	cobalt lithium manganese nickel oxide

· **Proposition 65**

· **Chemicals known to cause cancer:**

182442-95-1	cobalt lithium manganese nickel oxide
1333-86-4	Carbon black

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7440-50-8	copper	D

· **TLV (Threshold Limit Value)**

7429-90-5	aluminium	A4
1333-86-4	Carbon black	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

182442-95-1	cobalt lithium manganese nickel oxide
1333-86-4	Carbon black

· **National regulations:**

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:**
Shenzhen Element Testing Co., Ltd.
101 of Plant 4 & 401 of Plant 2, No. 76, Longlingbei Rd, Pingxi, Pingdi St, Longgang Dist, Shenzhen, 518117, China
· **Contact:** -
· **Date of preparation** 12/06/2025
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)

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LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute toxicity - dermal 4: Acute toxicity – Category 4
Acute toxicity - inhalation 2: Acute toxicity – Category 2
Sensitization - skin 1: Skin sensitisation – Category 1
Carcinogenicity 1A: Carcinogenicity – Category 1A
Reproductive toxicity 1B: Reproductive toxicity – Category 1B
Specific target organ toxicity (repeated exposure) 1: Specific target organ toxicity (repeated exposure) – Category 1

安全技术说明书
Safety Data Sheet

委托单位名称: Applicant's Name:	赣州拓远新能源有限公司 Ganzhou Tuoyuan New Energy Co., Ltd.
物品名称: Name of Goods:	聚合物锂离子电池 1260110 3.7V 10000mAh 37Wh Polymer Li-ion Battery 1260110 3.7V 10000mAh 37Wh
测试机构: Testing By:	深圳市元素检测有限公司 Shenzhen Element Testing Co., Ltd.
测试机构地址: Testing Institution Address:	深圳市龙岗区坪地街道坪西社区龙岭北路 76 号 2 号厂房 401、4 号厂房 101 邮编 518117 101 of Plant 4, & 401 of Plant 2, No.76, Longling North Road, Pingxi, Pingdi Subdistrict, Longgang District, Shenzhen, Guangdong, China/518117
签发日期: Issue Date:	2026-01-01

审核人： 叶小媚/项目工程师
Checked By: April Ye/Project Engineer

批准人： 张钦敏/技术负责人
Approved By: Kim Zhang/Technical Director

报告单位（盖章）
Stamp

第一部分 物质或混合物和供应商的标识

Section 1 Identification of the substance/mixture and of the company/undertaking

样品名称 Sample Name	聚合物锂离子电池 Polymer Li-ion Battery		样品型号 Sample Model	1260110	
额定容量 Rated Capacity	10000mAh		额定能量 Rated Energy	37Wh	
样品尺寸 Sample Size (L×W×T)	(110.0×60.0×12.0)mm	样品质量 Sample Mass	168.021g	重量比能量 Gravimetric Specific Energy	220Wh/kg
委托单位名称 Applicant's Name	赣州拓远新能源有限公司 Ganzhou Tuoyuan New Energy Co., Ltd.				
委托单位地址 Applicant's Address	江西省赣州市信丰县迎宾大道 5G 科技产业园北区 7、8 号厂房 Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou, Jiangxi, China				
制造商名称 Manufacturer's Name	赣州拓远新能源有限公司 Ganzhou Tuoyuan New Energy Co., Ltd.				
制造商地址 Manufacturer's Address	江西省赣州市信丰县迎宾大道 5G 科技产业园北区 7、8 号厂房 Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou, Jiangxi, China				
电话 Telephone	+86-13418874839	应急电话 Emergency telephone	+86-13418874839	邮箱 Email	eva_kangmin@126.com

产品的推荐用途和限制用途

Relevant identified uses of the substance or mixture and uses advised against

建议用途 Recommended Use	用于消费品 Used in consumer goods
限制用途 Uses advised against	无资料 No information available

第二部分 危险标识
Section 2 Hazards Identification

2.1 物质或混合物的分类
Classification of the substance or mixture

根据联合国 GHS 制度第 10 修订版要求分类

According to the classification requirements of the 10th revision of the United Nations GHS system

不适用（不在联合国 GHS 制度第 10 修订版范围内）

Not applicable (Not within the scope of the 10th revised edition of the UNITED NATIONS GHS system)

2.2 标签要素 Label elements

象形图	不适用
Symbols/Pictograms	Not applicable
信号词	不适用
Signal word	Not applicable
危险说明	不适用
Hazard Statements	Not applicable

防范说明 Precautionary statements

预防措施	不适用
Prevention	Not applicable
事故响应	不适用
Response	Not applicable
安全储存	不适用
Storage	Not applicable
废弃处置	不适用
Disposal	Not applicable

2.3 危害描述 Hazard description

与电池电解液接触可能会刺激皮肤、眼睛和粘膜。火灾会产生刺激性、腐蚀性和/或有毒气体。烟雾可能导致头晕或窒息。

Contact with the electrolyte of battery may be irritating to skin, eyes and mucous membranes. Fire will produce irritating, corrosive and/or toxic gases. Fumes may cause dizziness or suffocation.

正常条件下根据制造商的说明使用电池不会产生危害。使用不当的情况下，有破裂、起火、发烫、内部成分泄露的危险，并可能造成意外损失。使用不当的行为包括但不仅限于下列情况：长时间充电、短路、投入火中、硬物撞击、尖物刺破、破碎和破裂。

Using the battery under normal conditions according to the manufacturer's instructions is not hazardous. In the case of improper use, there is a risk of rupture, fire, hot, leakage of internal components, and may cause accidental losses. Improper use includes, but is not limited to, the following conditions: prolonged charging, short circuit, fire exposure, hard object impact, sharp object puncture, fragmentation and rupture.

第三部分 成分/组成信息
Section 3 Composition, Information on Ingredients

化学名称 Chemical composition	化学式 Chemical formula	CAS 号 CAS No.	浓度或浓度范围 Concentration or concentration ranges (%)
镍钴锰酸锂 Lithium Nickel Cobalt Manganese Oxide	$Li(Ni_{0.5}Co_{0.2}Mn_{0.3})O_2$	182442-95-1	46.89%
聚偏氟乙烯 Polyvinylidene Fluoride	$(C_2H_2F_2)n$	24937-79-9	0.97%
碳纳米管 CNTS	C	16291-96-6	0.73%
铝 Aluminium	Al	7429-90-5	4.25%
石墨 Graphite	$C_{24}X_{12}$	7782-42-5	20.42%
导电炭黑 SUPER-P	C	1333-86-4	0.21%
丁苯橡胶 Styrene-Butadiene Rubber	$(C_8H_8.C_4H_6)x$	9003-55-8	0.44%
羧甲基纤维素 Carboxymethylcellulose	$C_8H_{16}O_8$	9000-11-7	0.20%
铜 Copper	Cu	7440-50-8	5.22%
六氟磷酸锂 Lithium Hexafluorophosphate	$LiPF_6$	21324-40-3	17.39%
聚乙烯 Polyethylene	$(C_2H_4)n$	9002-88-4	1.94%
尼龙 Nylon	C_2ClF_3(unspec.)	24937-16-4	0.51%
聚丙烯 Polypropylene	$(C_3H_6)n$	9003-07-0	0.83%

注意: CAS 号是化学文摘服务注册号码。N/A =不适用

Note: CAS number is Chemical Abstract Service Registry Number. N/A=Not apply

第四部分 急救措施
Section 4 First Aid Measures

4.1 急救措施的描述
Description of first aid measures

一般建议 **General advice**	如果发生意外或不适，立即寻求医疗帮助。 In case of accident or unwellness, seek medical advice immediately.
吸入 **After inhalation**	如果吸入烟气或燃烧的产物，迅速脱离现场至空气新鲜处，保持呼吸通畅，若感到不适，寻求医生帮助。 If fumes or combustion products are inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
摄入 **Ingestion**	用清水冲洗嘴巴，然后喝大量的水，催吐，并就医。 Give water to rinse out mouth, then drink plenty of water, vomiting, and go to a doctor.
皮肤接触 **Skin contact**	无明显症状，如果皮肤出现持续刺激，请就医。 No apparent symptoms. If skin irritation persists, call a physician.
眼睛接触 **Eye contact**	提起眼睑，用流动清水或生理盐水冲洗至少 15 分钟，若仍有刺激感，立即就医。 Keep eyelids apart and away from eye and moving the eyelids by lifting the upper and lower lids occasionally, flush eyes with plenty of water or saline water for at least 15 minutes, call a physician if irritation persists.
急救人员的防护 **Protecting of first-aiders**	确保医护人员了解产品的危害特性，并采取自身防护措施，以保护自己和防止污染传播。 Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 最重要的症状和效果，急性和延迟
Most important symptoms and effects, both acute and delayed

有限的证据表明反复或长期职业接触可能会产生涉及器官或生化系统累积性的健康影响

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

4.3 紧急医疗处理和特殊处理的说明
Indication of any immediate medical attention and special treatment needed

根据症状治疗，注意症状可能会出现延迟。

Treat symptomatically, Symptoms may be delayed.

第五部分 消防措施
Section 5 Fire Fighting Measures

5.1 灭火介质 Extinguishing media

合适的灭火剂	使用适用于周围环境的灭火介质
Suitable extinguishing media	Use fire extinguishing media suitable for the surrounding environment
不合适的灭火剂	无资料
Unsuitable extinguishing media	No information available

5.2 源于此物质或混合物产生的特殊危害
Special hazards arising from the substance or mixture

燃烧时可能分解，产生刺激性、腐蚀性或有毒烟雾。烟雾可能引起头晕或窒息。

May decompose upon combustion to generate irritating, corrosive or toxie fumes. Fumes may cause dizziness or suffocation.

5.3 对消防人员的建议 Advice for firefighters

消防人员应佩戴自给式呼吸器和全套的消防服；

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear;

用任何方式，防止泄漏进入下水道或河道；

Prevent, by any means available, spillage from entering drains or water courses;

用水作为一个很好的喷雾控制火和冷却的邻近区域。

Use water delivered as a fine spray to control fire and cool adjacent area.

第六部分 泄露应急处理
Section 6 Accidental Release Measures

6.1 个人预防措施、防护装备和应急程序
Personal precautions, protective equipment and emergency procedures

如果电池材料被释放，请撤离该区域，直到烟雾消散。提供最大程度的通风，清除有害气体。最好的反应是离开该区域，在电池冷却和蒸汽消散后处理掉外壳。提供最大程度的通风。避免皮肤和眼睛接触或吸入蒸汽。

If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area, dispose the case after the batteries cool and vapors dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors.

6.2 环境保护措施
Environmental precautions

防止产品进入下水道。

Prevent product from entering drains

6.3 收集和清理的方法和材料

Methods and material for containment and cleaning up

收集和转移到合适的带标签的容器中，避免落灰。

Pick up and transfer to properly labeled containers. Avoid generation of dust

6.4 参考其他部分

Reference to other sections

个人防护设备建议见 SDS 第 8 部分。

Personal Protective Equipment advice is contained in Section 8 of the SDS.

废弃处置建议见 SDS 第 13 部分。

Disposal considerations advice is contained in Section 13 of the SDS.

第七部分 操作处置与储存

Section 7 Handling and Storage

7.1 **安全操作注意事项 Precautions for safe handling**

具体的安全处理建议：不要将电池扔进火中或暴露在高温下。不要将电池浸泡在水中或海水中。不要暴露在强氧化剂中。不得造成强烈的机械冲击或摔倒。切勿拆卸、修改或变形。请勿用导电材料连接正极和负极。

Specific safe handling advice: Never throw out cells in a fire or expose to high temperatures. Do not soak cells in water and seawater. Do not expose to strong oxdizers. Do not give a strong mechanical shock or throw down. Never disassemble, modify or deform. Do not connect the positive terminal to the negative terminal with electrically conductive material.

7.2 **安全储存条件,包括任何不相容性**

Conditions for safe storage, including any incompatibilities

请勿将电池单体放置在加热设备附近，也不要长时间暴露在阳光直射下。温度升高会缩短电池寿命，降低电池性能。保存在阴凉的地方。不兼容产品:导电材料、水、海水、强氧化剂、强酸。配备相应品种和数量的消防设备和泄漏应急处理设备。

Do not place the battery cell near heating equipment, nor expose to direct sunlight for long periods. Elevated temperatures can result in shortened battery cell life and degrade performance. Store in cool place. Incompatible products: Conductive materials, water, seawater, strong oxidizers and strong acids. Equipped with corresponding varieties and number of fire equipment and leakage emergency treatment equipment.

7.3 特定用途 Reference to other sections

除第 1.2 部分提及的用途外，未预见其它具体用途。

In addition to use mentioned in the Section 1.2, unforeseen other specific end uses.

第八部分 接触控制/个体防护
Section 8 Exposure Controls / Personal Protection

8.1 控制参数 Control parameters

职业接触限值 **Occupational Exposure Limit, OEL**	无相关规定 No relevant regulations
生物限值 **Biological limit values**	无相关规定 No relevant regulations
预测的无效应浓度 **Predicted No Effect Concentration (PNEC)**	无相关规定 No relevant regulations
衍生的无效应水平 **Derived No effect level. DNEL**	无相关规定 No relevant regulations

8.2 接触控制 Exposure control

工程控制 **Engineering Controls**	保持充分的通风，特别在封闭区内；确保在工作场所附近有洗眼和淋浴设施；使用防爆电器、通风、照明等设备；设置应急撤离通道和必要的泄险区。 Ensure adequate ventilation, especially in confined areas, Ensure that eyewash stations and safety showers are close to the workstation location, Use explosion-proofelectrical/ventilating/lighting/equipment, Set up emergency exit and necessary risk-elimination area.

8.3 个人防护设备 Personal protective equipment

眼睛防护 **Eye protection**	必须佩戴合适的防腐蚀护目镜。 Must wear appropriate anti-corrosion goggles.
手部防护 **Hand protection**	必须戴耐酸碱的化学防护手套。 Must wear acid and alkali resistant chemical protective gloves.
呼吸系统防护 **Respiratory protection**	必须佩戴合适的个人呼吸防护用品。 Must wear appropriate personal respiratory protective equipment.
皮肤和身体防护 **Skin and body protection**	必须穿抗酸碱化学防护服。 Must wear acid and alkali resistant chemical protective clothing.

第九部分 理化特性
Section 9 Physical and Chemical Properties

9.1 理化特性
Information on basic physical and chemical properties

物理状态 **Physical State**	固体 Solid
颜色 **Color**	银色 Silver
气味 **Odor**	无气味 Odorless
嗅觉阈值 **Odor threshold**	不适用 Not applicable
pH 值 **pH**	不适用 Not applicable
熔点-凝固点 **Melting/freezing point**	不适用 Not applicable
沸点-沸腾范围 **Boiling Point, initial boiling point and Boiling range**	不适用 Not applicable
闪点（闭杯，℃） **Flash Point (Closed cup, ℃)**	不适用 Not applicable
蒸发率 **Evaporation rate**	不适用 Not applicable
可燃性 **Flammability**	无资料 No information available
可燃性或爆炸性上/下限 **Upper/lower flammability or explosive limits**	无资料 No information available
蒸汽压 **Vapor pressure**	不适用 Not applicable
相对蒸汽密度（空气=1） **Vapor density (Air=1)**	不适用 Not applicable
相对密度（水=1） **Density/relative density (Water=1)**	不适用 Not applicable
溶解性 **Solubility**	不适用 Not applicable

辛醇/水分配系数 **n-octanol/water partition coefficient**	不适用 Not applicable
自燃温度（℃） **Autoignition temperature**	不适用 Not applicable
分解温度（℃） **Decomposition temperature**	无资料 No information available
运动粘度（mm^2/s） **Kinematic viscosity (mm^2/s)**	不适用 Not applicable

9.2 其他信息 Other information

无资料

No information available

第十部分 稳定性和反应性

Section 10 Stability and Reactivity

10.1 反应性 Reactivity

与不相容物质接触可发生分解或其它化学反应。

Contact with incompatible substances can cause decomposition or other chemical reactions.

10.2 化学稳定性 Chemical stability

在正确的使用和存储条件下是稳定的。

Stable under proper operation and storage conditions.

10.3 危险反应的可能性 Possibility of hazardous reactions

与氧化剂反应剧烈，有引起燃烧爆炸的危险。具有可燃性，其气体（或粉末）与空气接触可形成爆炸性混合物,与金属烷氧化物接触会发生着火。

In contact with oxidants causes severe reactions, and may cause a fire or explosion. Flammable, its gas or powder, if in contact with air, may form explosive mixtures. In contact with metal alkoxides may cause a fire.

10.4 避免的条件 Conditions to avoid

不要使电池受到机械冲击。远离明火、高温。

Do not subject battery to mechanical shock. Keep away from open flames, high temperature.

10.5 禁配物 Incompatible materials

导电材料、水、海水、强氧化剂、强酸。

Conductive materials, water, seawater, strong oxidizers and strong acids.

10.6 有害的分解产物 Hazardous decomposition products

碳氧化物、其他刺激性和有毒气体。

Carbon oxides, other irritating and toxic gases.

第十一部分 毒理学信息
Section 11 Toxicological Information

11.1 危险类别信息 Information on hazard classes

急毒性 **Acute toxicity**	根据现有资料，不符合分类标准。 According to the available information, it does not meet the classification criteria.
皮肤腐蚀/刺激 **Skin corrosion/irritation**	如果在内容物暴露的情况下，蒸汽烟雾可能对皮肤和眼睛非常刺激。 In the event of exposure to internal contents, vapor fumes may be very irritating to the skin and eyes
严重眼损伤/眼睛刺激 **Serious eye damage/eye irritation**	如果在内容物暴露的情况下，蒸汽烟雾可能对皮肤和眼睛非常刺激。 In the event of exposure to internal contents, vapor fumes may be very irritating to the skin and eyes
致敏作用 **Sensitization**	不适用 Not applicable
生殖细胞突变性 **Germ cell mutagenicity**	不适用 Not applicable
致癌性 **Carcinogenicity**	不适用 Not applicable
生殖毒性 **Reproductive toxicity**	不适用 Not applicable
特定目标器官毒性-单次接触 **STOT - single exposure**	不适用 Not applicable
特定目标器官毒性-反复接触 **STOT - repeated exposure**	不适用 Not applicable
吸入性危害 **Aspiration hazard**	不适用 Not applicable

11.2 其他危险信息 Information on other hazards

内分泌干扰物特性
Endocrine disrupting properties
无可用资料
No information available

其他信息 Other Information
见第 11.1 节
See Section 11.1

第十二部分 生态学信息
Section 12 Ecological Information

12.1 水毒性 Toxicity
无可用资料
No information available

12.2 持久性和降解性 Persistence and degradability
无可用资料
No information available

12.3 生物积累的潜在可能性 Bioaccumulative potential
无可用资料
No information available

12.4 土壤中移动性 Mobility in soil
无可用资料
No information available

12.5 PBT 和 vPvB 的结果评价 Results of PBT and vPvB assessment
无可用资料
No information available

12.6 内分泌干扰物特性 Endocrine disrupting properties
无可用资料
No information available

12.7 其他不利影响 Other adverse effects
无可用资料
No information available

第十三部分 废弃处置
Section 13 Disposal Considerations

废弃物处置方法 **Waste treatment methods**	
产品处理建议 **Product disposal recommendation**	处置之前应参阅国家和地方有关法规。 National and local regulations should be referred to before disposal.
包装处理建议 **Packaging disposal on**	容器可以回收或者重用,遵守国家和地方有关法规。 Packaging disposal recommendation: Containers may be recycled or re-used Observe National and local regulations.
废弃注意事项 **Attention for waste treatment**	废电池不能当作普通垃圾。不能扔进火中或置于高温下。不能解体，刺穿，破碎或类似的处理。 Deserted batteries couldn’t be treated as ordinary trash. Couldn’t be thrown into fire or placed in high temperature. Couldn’t be dissected, pierced, crushed or treated similarly. Best way is recycling.

第十四部分 运输信息
Section 14 Transport Information

联合国危险货物编号 UN Number	UN3480 & UN3481	
运输专用名称 Shipping Name	锂离子电池（包括锂离子聚合物电池）（荷电状态不得超过其额定容量的 30%）或； Lithium ion batteries (including lithium ion polymer batteries) (Suggested limited to a maximum of 30% SoC) or; 与设备一起包装的锂离子电池（包括锂离子聚合物电池）（荷电状态不得超过其额定容量的 30%）或； Lithium ion batteries packed with equipment (including lithium ion polymer batteries) (Suggested limited to a maximum of 30% SoC) or; 包含在设备中的锂离子电池（包括锂离子聚合物电池）（荷电状态建议不超过其额定容量的 30%）。 Lithium ion batteries contained in equipments (including lithium ion polymer batteries) (Suggested limited to a maximum of 30% SoC).	
UN 分类（运输危险类别） UN Classification (Transport hazard class)	IATA	9 类 Class 9
	IMDG	9 类 Class 9
国际民间航空组织 / 国际航空运输协会 ICAO / IATA	可根据国际民用航空组织（ICAO），TI 或国际航空协会（IATA）DGR 67th（2026 年版）包装说明 PI 965 第 IA 部分和 PI 966、967 第 I 部分相关规定进行空运。 Can be shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DGR Packing Instructions PI 965 Section IA and PI 966、967 Section I appropriate of IATA DGR 67th (2026 Edition) for transportation.	
国际海运危险货物规则 IMDG CODE	可根据 IMDG Code 2024 版（Amdt42-24）相关规定进行海运。 Shipping may be done in accordance with the IMDG Code 2024 Edition (Amdt 42-24).	
国际道路运输危险货物协定 / 国际铁路运输危险货物规则 ADR / RID	可根据 ADR 2025 / RID 2025 相关规定进行运输。 Shipping may be done in accordance with the ADR 2025 / RID 2025.	
此外，每个锂电芯和电池类型都必须通过联合国《关于危险货物运输的建议书 试验和标准手册》第 38.3 节规定的适用测试。电池应做好防短路措施。 In addition, to be permitted in transport each lithium cell and battery types must have passed the applicable tests set out in Subsection 38.3 of the UN Manual of Tests and Criteria. The batteries should be well protected against short circuits.		

第十五部分 法规信息

Section 15 Regulatory Information

15.1 针对该物质或混合物的安全，健康和环境法规/立法

Safety, health and environmental regulations/legislation specific for the substance or mixture

国际化学品名录

International chemical inventory

关于运输，引用和考虑了以下法规：

With regard to transport, the flowing regulations are cited and considered:

关于危险货物运输的建议书规章范本(TDG)

Recommendations on the Transport of Dangerous Goods Model Regulations (TDG)

国际民用航空协会《危险品规则》 (IATA-DGR)

International Civil Aviation Association Dangerous Goods Regulation (IATA-DGR)

国际海运危险货物规则(IMDG-CODE)

International Maritime Dangerous Goods Code (IMDG-CODE)

国际铁路运输危险货物规则(RID)

International Railway Transport Dangerous Goods Regulations (RID)

国际公路运输危险货物协定(ADR)

Agreement on the International Carriage of Dangerous Goods by Road (ADR)

国际内河运输危险货物协定(ADN)

Agreement on the International Carriage of Dangerous Goods by Inland Waters (ADN)

联合国《关于危险货物运输的建议书试验和标准手册》

Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria

《国际航空运输协会》(IATA)

International Air Transport Association (IATA)

《危险货物安全运输技术指南》

Technical Instructions for the Safe Transport of Dangerous Goods

《危险货物分类和品名编号》

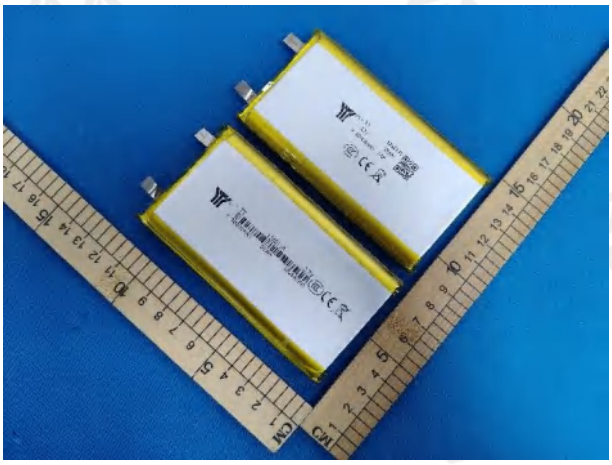
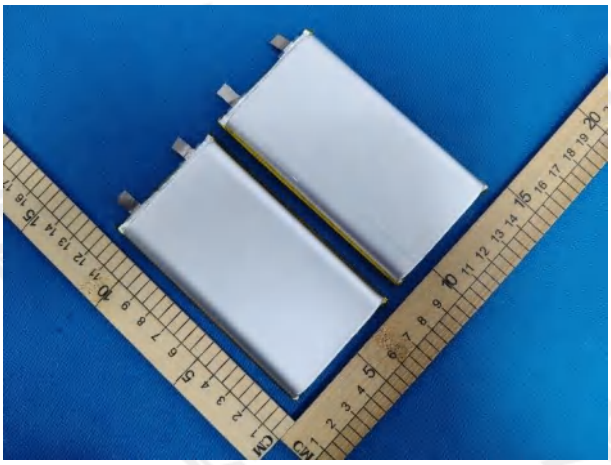
Classification and code of dangerous goods

《职业安全与健康标准》危险通信标准

OSHA Hazard Communication Standard

第十六部分 其他信息
Section 16 Additional Information

样品图片 Sample Picture

免责声明 Disclaimer

本 SDS 报告仅针对电池。报告内容是根据申请单位提供的成分含量等信息和我司现有知识编写，仅作为指导使用。如果电池被用于其它产品中的组件，本 SDS 报告的信息可能不适用。本 SDS 的使用者必须对内容的正确性与完整性做出独立判断，根据实际情况决定其适用性，并对使用后果承担相关法律责任。

This SDS is only compiled for battery and based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. If the battery is used as a component in another product, the information in this SDS may not be applicable. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.

--报告结束--
--End of report--

	Test Report issued under the responsibility of: **NCB TÜV SÜD PSB Pte. Ltd.** **15 International Business Park, TÜV SÜD@IBP** **Singapore 609937**	

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. ..... :	211-282251549-000
Date of issue ..... :	2025-10-30
Total number of pages..... :	23 pages
Name of Testing Laboratory preparing the Report..... :	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Applicant's name ..... :	Ganzhou TuoYuan New Energy Co., Ltd.
Address ..... :	Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, 341600 Ganzhou, Jiangxi, PEOPLE'S REPUBLIC OF CHINA
Test specification:	
Standard ..... :	IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No. ..... :	IEC62133_2C
Test Report Form(s) Originator .... :	DEKRA Certification B.V.
Master TRF ..... :	Dated 2022-07-01

This report is not valid as a CB Test Report unless signed by an approved IECEE Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing NCB. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	Lithium-ion Polymer Cell		
Trade Mark(s) ..... :	TY		
Manufacturer ..... :	Same as applicant		
Model/Type reference ..... :	1260110		
Ratings ..... :	3.7Vd.c., 10000mAh		
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch	
Testing location/ address.....:		Building A2, Jin'ao Industrial Park, No.150, Jingfang Road, Fuhai, Bao'an District, Shenzhen, Guangdong 518103, China	
Tested by (name, function, signature).....:		Jony Huang Project Handler	
Approved by (name, function, signature)...:		Red Chen Project Reviewer	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address.....:			
Tested by (name + signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
Supervised by (name, function, signature) :			

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

Attachment No.1: 3 pages of (Republic of Korea) NATIONAL DIFFERENCES.

Attachment No.2: 1 page of Photo Documentation.

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
Tests are made with the number of samples specified in Table 1 of IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021. clause 7.2.1 Continuous charging at constant voltage (cells) clause 7.3.1 External short circuit (cell) clause 7.3.3 Free fall clause 7.3.4 Thermal abuse (cells) clause 7.3.5 Crush (cells) clause 7.3.7 Forced discharge (cells) clause 7.3.9 Forced internal short-circuit (cells) The samples comply with the requirements of IEC 62133-2:2017, IEC 62133-2:2017/AMD1:2021.	TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch Address: Building A2, Jin'ao Industrial Park, No.150, Jingfang Road, Fuhai, Bao'an District, Shenzhen, Guangdong 518103, China

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

Republic of Korea

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

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐Other:… (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

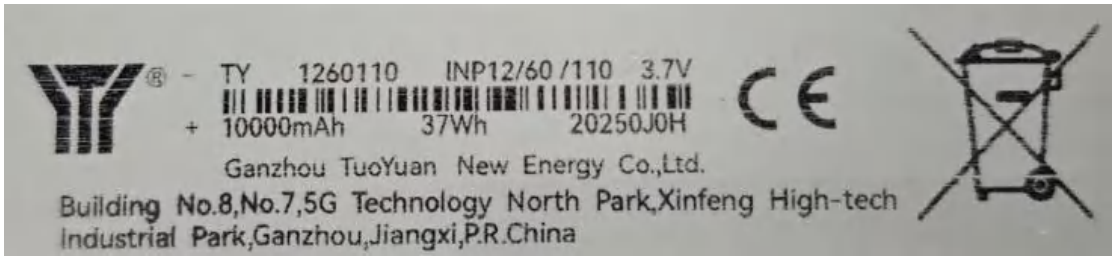
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

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



Remark: 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

Test item particulars.....:	
Classification of installation and use.....:	Use in portable applications
Supply Connection.....:	Supply by electrode tab
Recommend charging method declared by the manufacturer.....:	Charge at constant current 2000mA until voltage reaches 4.2V, then charge at constant voltage 4.2V till charge current is 100mA.
Discharge current (0,2 It A).....:	2000mA
Specified final voltage.....:	3.0V
Upper limit charging voltage per cell.....:	4.25V
Maximum charging current.....:	10000mA
Charging temperature upper limit.....:	45°C
Charging temperature lower limit.....:	0°C
Polymer cell electrolyte type.....:	☐gel polymer ☐solid polymer ☒N/A
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	2025-09-30
Date (s) of performance of tests .....:	2025-09-30 to 2025-10-18

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒**Not applicable**

When differences exist; they shall be identified in the General product information section.

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

General product information and other remarks:

1. Lithium-ion Polymer Cell model: 1260110 is used for portable applications.

2. Additionally, detailed information of the cell as following:

Product name	Lithium-ion Polymer Cell
Type/model	1260110
Nominal voltage	3.7Vd.c.
Rated capacity	10000mAh
Charging voltage recommended by manufacturer	4.2V
Upper limit charging voltage	4.25V
Final voltage	3.0V
Lower limit discharge voltage	3.0V
Charging current declared by manufacturer	2000mA
Discharge current (0,2 It A)	2000mA
Maximum charging current	10000mA
Maximum discharging current	10000mA
Charging temperature upper limit	45°C
Charging temperature lower limit	0°C
First charging procedure (20°C ± 5°C)	Charge at constant current 2000mA until voltage reaches 4.2V, then charge at constant voltage 4.2V till charge current is 100mA.
Second charging procedure	Store at 0°C and 45°C for 1 to 4 hours, respectively, then charge at constant current 10000mA until voltage reaches 4.25V, then charge at constant voltage 4.25V till charge current reduced to 0.05 *I*t A (500mA)
Remark: The final evaluation of the cell must be conducted in the end product for which the cell will be used.	

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		N/A
	Insulation resistance (MΩ) ..... :		—
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements		N/A
	Orientation of wiring maintains adequate clearances and creepage distances between conductors		N/A
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse		N/A
5.3	**Venting**		P
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition		P
	Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief		N/A
5.4	**Temperature, voltage and current management**		N/A
	Batteries are designed such that abnormal temperature rise conditions are prevented		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**		N/A
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance		N/A
	Terminal contacts are arranged to minimize the risk of short circuits		N/A
5.6	**Assembly of cells into batteries**		N/A
5.6.1	General		N/A
	Each battery has an independent control and protection for current, voltage, temperature and any other parameter required for safety and to maintain the cells within their operating region		N/A
	This protection may be provided external to the battery such as within the charger or the end devices		N/A
	If protection is external to the battery, the manufacturer of the battery provide this safety relevant information to the external device manufacturer for implementation		N/A
	If there is more than one battery housed in a single battery case, each battery has protective circuitry that can maintain the cells within their operating regions		N/A
	Manufacturers of cells specify current, voltage and temperature limits so that the battery manufacturer/designer may ensure proper design and assembly		N/A
	Batteries that are designed for the selective discharge of a portion of their series connected cells incorporate circuitry to prevent operation of cells outside the limits specified by the cell manufacturer		N/A
	Protective circuit components are added as appropriate and consideration given to the end-device application		N/A
	The manufacturer of the battery provide a safety analysis of the battery safety circuitry with a test report including a fault analysis of the protection circuit under both charging and discharging conditions confirming the compliance		N/A
5.6.2	Design recommendation		N/A
	For the battery consisting of a single cell or a single cellblock, it is recommended that the charging voltage of the cell does not exceed the upper limit of the charging voltage specified in Table 2		N/A

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
	After stabilization for 1 h to 4 h, at an ambient temperature of the highest test temperature and the lowest test temperature, respectively, as specified in Table 2, cells are charged by using the upper limit charging voltage and maximum charging current, until the charging current is reduced to 0,05 It A, using a constant current to constant voltage charging method		P
7.2	**Intended use**		P
7.2.1	Continuous charging at constant voltage (cells)		P
	Fully charged cells are subjected for 7 days to a charge using the charging method for current and standard voltage specified by the cell manufacturer		P
	Results: no fire, no explosion, no leakage.....:	(See appended table 7.2.1)	P
7.2.2	Case stress at high ambient temperature (battery)		N/A
	Oven temperature (°C).....:		—
	Results: no physical distortion of the battery case resulting in exposure of internal protective components and cells		N/A
7.3	**Reasonably foreseeable misuse**		P
7.3.1	External short-circuit (cell)		P
	The cells were tested until one of the following occurred:		P
	- 24 hours elapsed; or		N/A
	- The case temperature declined by 20 % of the maximum temperature rise		P
	Results: no fire, no explosion.....:	(See appended table7.3.1)	P
7.3.2	External short-circuit (battery)		N/A
	The batteries were tested until one of the following occurred:		N/A
	- 24 hours elapsed; or		N/A
	- The case temperature declined by 20 % of the maximum temperature rise		N/A
	In case of rapid decline in short circuit current, the battery pack remained on test for an additional one hour after the current reached a low end steady state condition		N/A
	A single fault in the discharge protection circuit is conducted on one to four (depending upon the protection circuit) of the five samples before conducting the short-circuit test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	A single fault applies to protective component parts such as MOSFET (metal oxide semiconductor field-effect transistor), fuse, thermostat or positive temperature coefficient (PTC) thermistor		N/A
	Results: no fire, no explosion ..... :		N/A
7.3.3	Free fall		P
	Results: no fire, no explosion		P
7.3.4	Thermal abuse (cells)		P
	Oven temperature (°C) ..... :	130°C±2°C	—
	Results: no fire, no explosion		P
7.3.5	Crush (cells)		P
	The crushing force was released upon:		P
	- The maximum force of 13 kN±0,78kN 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 table7.3.5)	P
7.3.6	Over-charging of battery		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 exceed6,0 V) for single cell/cell block batteries or		N/A
	- 1,2 times the upper limit charging voltage resented in Table A.1 per cell for series connected multi-cell batteries, and		N/A
	- Sufficient to maintain a current of 2,0 It A throughout the duration of the test or until the supply voltage is reached		N/A
	Test was continued until the temperature of the outer casing:		N/A
	- Reached steady state conditions (less than 10 °C change in 30-minute period); or		N/A
	- Returned to ambient		N/A
	Results: no fire, no explosion ..... :		N/A
7.3.7	Forced discharge (cells)		P
	Discharge a single cell to the lower limit discharge voltage specified by the cell manufacturer		P
	The discharged cell is then subjected to a forced discharge at 1 It A to the negative value of the upper limit charging voltage		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- The discharge voltage reaches the negative value of upper limit charging voltage within the testing duration. The voltage is maintained at the negative value of the upper limit charging voltage by reducing the current for the remainder of the testing duration		N/A
	- The discharge voltage does not reach the negative value of upper limit charging voltage within the testing duration. The test is terminated at the end of the testing duration		P
	Results: no fire, no explosion ..... :	(See appended table7.3.7)	P
7.3.8	Mechanical tests (batteries)		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)		P
	The cells complied with national requirement for ..... :	France, Japan, Korea and 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	P
	Results: no fire ..... :	(See appended table 7.3.9)	P

8	**INFORMATION FOR SAFETY**		P
8.1	**General**		P
	Manufacturers of secondary cells provides information about current, voltage and temperature limits of their products		P
	Manufacturers of batteries provides information regarding how to minimize and mitigate hazards to equipment manufacturers or end-users		N/A
	Systems analyses are performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product		N/A
	As appropriate, any information relating to hazard avoidance resulting from a system analysis is provided to the end user		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
	Small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion is given on the immediate package		N/A
9.4	**Other information**		N/A
	The following information are marked on or supplied with the battery:		N/A
	- Storage and disposal instructions		N/A
	- Recommended charging instructions		N/A
10	**PACKAGING AND TRANSPORT**		N/A
	Packaging for coin cells are not be small enough to fit within the limits of the ingestion gauge of Figure 3		N/A
ANNEX A	**CHARGING AND DISCHARGING RANGE OF SECONDARY LITHIUM ION CELLS FOR SAFE USE**		P
A.1	**General**		P
A.2	**Safety of lithium ion secondary battery**		P
A.3	**Consideration on charging voltage**		P
A.3.1	General		P
A.3.2	Upper limit charging voltage		P
A.3.2.1	General		P
A.3.2.2	Explanation of safety viewpoint		P
A.3.2.3	Safety requirements, when different upper limit charging voltage is applied		N/A
A.4	**Consideration of temperature and charging current**		P
A.4.1	General		P
A.4.2	Recommended temperature range		P
A.4.2.1	General		P
A.4.2.2	Safety consideration when a different recommended temperature range is applied		P
A.4.3	High temperature range		N/A
A.4.3.1	General		N/A
A.4.3.2	Explanation of safety viewpoint		N/A
A.4.3.3	Safety considerations when specifying charging conditions in the high temperature range		N/A
A.4.3.4	Safety considerations when specifying a new upper limit in the high temperature range		N/A
A.4.4	Low temperature range		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A.4.4.1	General		N/A
A.4.4.2	Explanation of safety viewpoint		N/A
A.4.4.3	Safety considerations, when specifying charging conditions in the low temperature range		N/A
A.4.4.4	Safety considerations when specifying a new lower limit in the low temperature range		N/A
A.4.5	Scope of the application of charging current		P
A.4.6	Consideration of discharge		P
A.4.6.1	General		P
A.4.6.2	Final discharge voltage and explanation of safety viewpoint		P
A.4.6.3	Discharge current and temperature range		P
A.4.6.4	Scope of application of the discharging current		P
A.5	**Sample preparation**		P
A.5.1	General		P
A.5.2	Insertion procedure for nickel particle to generate internal short		P
A.5.3	Disassembly of charged cell		P
A.5.4	Shape of nickel particle		P
A.5.5	Insertion of nickel particle in cylindrical cell		N/A
A.5.5.1	Insertion of nickel particle in winding core		N/A
A.5.5.2	Marking the position of the nickel particle on both ends of the winding core of the separator		N/A
A.5.6	Insertion of nickel particle in prismatic cell		P
A.6	**Experimental procedure of the forced internal short-circuit test**		P
A.6.1	Material and tools for preparation of nickel particle		N/A
A.6.2	Example of a nickel particle preparation procedure		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
A.6.11	Recommended specifications for the pressing device		P
ANNEX B	**RECOMMENDATIONS TO EQUIPMENT MANUFACTURERS AND BATTERY ASSEMBLERS**		P
ANNEX C	**RECOMMENDATIONS TO THE END-USERS**		N/A
ANNEX D	**MEASUREMENT OF THE INTERNAL AC RESISTANCE FOR COIN CELLS**		N/A
D.1	**General**		N/A
D.2	**Method**		N/A
	A sample size of three coin cells is required for this measurement		N/A
	Coin cells with an internal resistance greater than 3 Ω require no further testing .....:		N/A
	Coin cells with an internal resistance less than or equal to 3 Ω are subjected to the testing according to Clause 6 and Table 1		N/A
ANNEX E	**PACKAGING AND TRANSPORT**		N/A
ANNEX F	**COMPONENT STANDARDS REFERENCES**		N/A

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

7.2.1	TABLE: Continuous charging at constant voltage (cells)			P
Sample No.	**Recommended charging voltage Vc (Vdc)**	**Recommended charging current I_{rec} (A)**	**OCV before test(Vdc)**	**Results**
C1	4.2	2.0	4.187	A, B
C2	4.2	2.0	4.184	A, B
C3	4.2	2.0	4.187	A, B
C4	4.2	2.0	4.186	A, B
C5	4.2	2.0	4.185	A, B

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

7.3.1	TABLE: External short circuit (cell)				P
Sample No.	**Ambient (°C)**	**OCV at start of test (Vdc)**	**Resistance of circuit (mΩ)**	**Maximum case temperature rise ΔT (K)**	**Results**
Samples charged at charging temperature upper limit					
C6	55.2	4.231	83	59.7	A
C7	55.2	4.224	74	56.9	A
C8	55.2	4.232	79	55.5	A
C9	55.2	4.227	71	61.3	A
C10	55.2	4.229	86	58.0	A
Samples charged at charging temperature lower limit					
C11	55.1	4.176	73	58.0	A
C12	55.1	4.183	85	60.6	A
C13	55.1	4.181	76	67.9	A
C14	55.1	4.185	77	59.7	A
C15	55.1	4.182	82	59.2	A

Supplementary information:
A - No fire or explosion
B - Others (please explain)

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

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

Supplementary information:

A - No fire or explosion

B - Others (please explain)

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				
C29	4.227	4.227	13.06	A
C30	4.230	4.230	13.05	A
C31	4.224	4.224	13.03	A
C32	4.229	4.229	13.08	A
C33	4.233	4.233	13.01	A
Samples charged at charging temperature lower limit				
C34	4.175	4.175	13.02	A
C35	4.182	4.182	13.07	A
C36	4.184	4.184	13.06	A
C37	4.181	4.181	13.01	A
C38	4.178	4.178	13.04	A

Supplementary information:

A - No fire or explosion

B - Others (please explain)

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

7.3.6	TABLE: Over-charging of battery		N/A
Constant charging current (A) ..... :			—
Supply voltage (Vdc) ..... :			—

Sample No.	OCV before charging (Vdc)	Total charging time (minute)	Maximum outer case temperature (°C)	Results

Supplementary information:

A - No fire or explosion

B - 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
C39	3.231	10	3.0	A
C40	3.201	10	3.0	A
C41	3.237	10	3.0	A
C42	3.220	10	3.0	A
C43	3.199	10	3.0	A

Supplementary information:

A - No fire or explosion

B - Others (please explain)

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

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

Supplementary information:
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				N/A
Sample No.	**OCV before test (Vdc)**	**OCV after test (Vdc)**	**Mass before test (g)**	**Mass after test (g)**	**Results**

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

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

7.3.9	TABLE: Forced internal short circuit (cells)				P
Sample No.	**Chamber ambient T (°C)**	**OCV before test (Vdc)**	**Particle location[1)]**	**Maximum applied pressure (N)**	**Results**
Samples charged at charging temperature upper limit					
C44	45	4.229	1	400	A
C45	45	4.234	1	400	A
C46	45	4.225	1	400	A
C47	45	4.228	1	400	A
C48	45	4.232	1	400	A
Samples charged at charging temperature lower limit					
C49	0	4.176	1	400	A
C50	0	4.181	1	400	A
C51	0	4.177	1	400	A
C52	0	4.179	1	400	A
C53	0	4.183	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.

Remark: There is no particle location 2 for this cell.

A - No fire

B - Others (please explain)

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

Supplementary information:

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

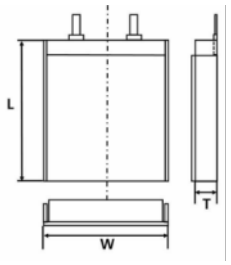
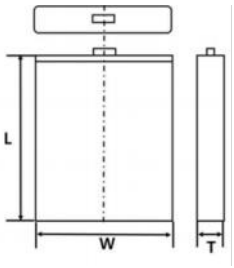
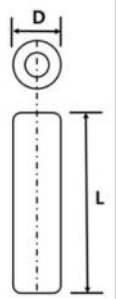
IEC 62133-2			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Critical components information				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity 1)**
1. Positive electrode	Shanxi Hongma SCI&TECH Co., LTD	HP5-A02E	$Li(Ni_{0.5}Co_{0.2}Mn_{0.3})O_2$	IEC 62133-2:2017, IEC 62133-2:2017/AMD 1:2021	Tested with cell
2. Negative electrode	Carbon ONE New Energy Group Co., Ltd.	AT-L5	Graphite	IEC 62133-2:2017, IEC 62133-2:2017/AMD 1:2021	Tested with cell
3. Electrolyte	Guizhou Hangsheng New Material Co., LTD.	HS23077	$LiPF_6$	IEC 62133-2:2017, IEC 62133-2:2017/AMD 1:2021	Tested with cell
4. Separator	Dongguan Zhongyu New Material Technology Co.,Ltd	14(9+3+2)μm	PE+Al_2O_3+PVDF, Shutdown temperature: 130°C, Thickness: 14μm	IEC 62133-2:2017, IEC 62133-2:2017/AMD 1:2021	Tested with cell
5. Aluminium plastic film	LiYang Advanced Material Tech CO., LTD	AG049E	PP+Al+PA	IEC 62133-2:2017, IEC 62133-2:2017/AMD 1:2021	Tested with cell
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

---END---

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

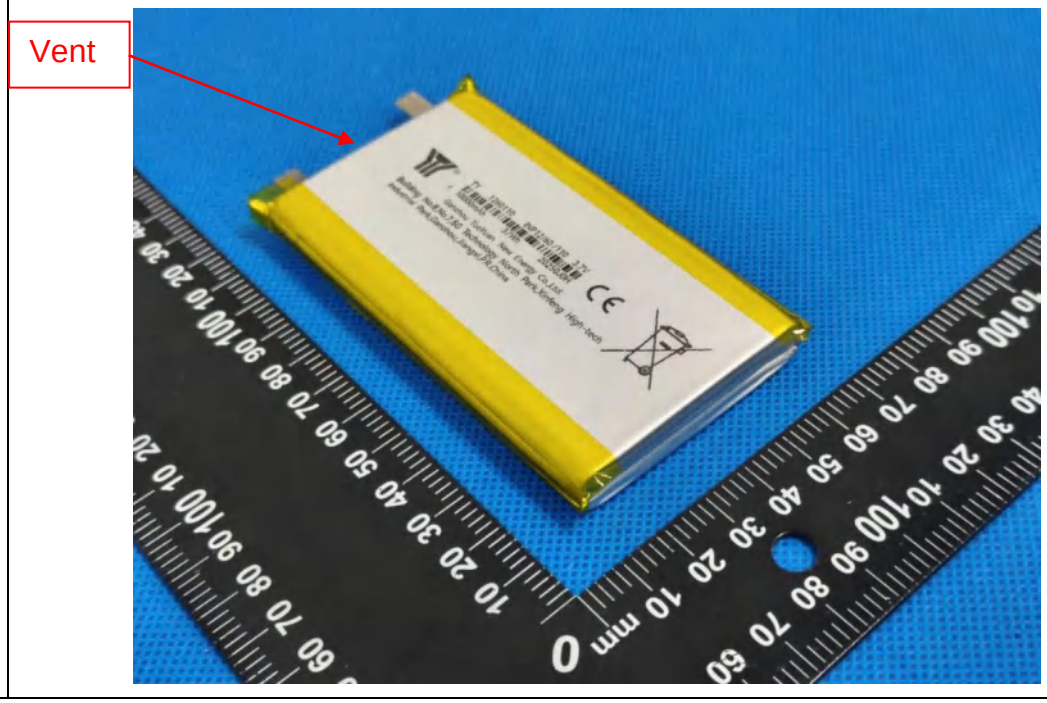
ATTACHMENT to IEC62133_2C			
Clause	Requirement + Test	Result - Remark	Verdict
	[Replace to the following statement] c) Acceptance criteria Filling beyond the manufacturer's specified limits should not result in ignition or explosion		N/A
Annex G	**Definition for shape and materials of outer case for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

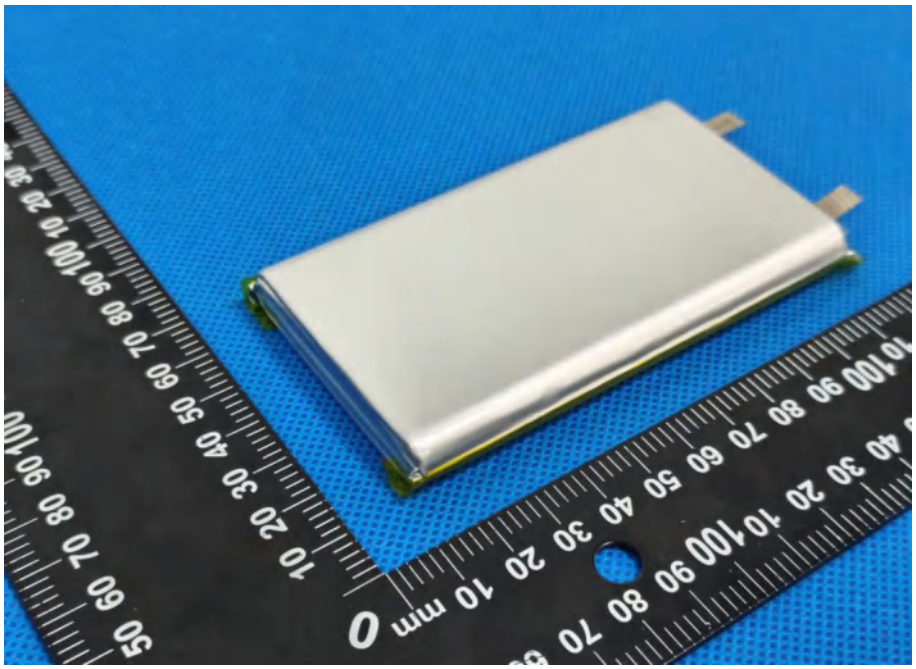
ATTACHMENT to IEC62133_2C			
Clause	Requirement + Test	Result - Remark	Verdict
	H.2 Calculation Method  L : Length (max.) of cell (including terrace) W : Width (max.) of cell T : Thickness (max.) when shipping charge (For reference, Please Exclude the dimension of any tape that Is attached to cell) $Volumetric\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

--- END ---

Attachment No.2
Photo Documentation

Report No.: 211-282251549-000

Details of:	Picture 1: View 1 of the cell, model: 1260110
	

Details of:	Picture 2: View 2 of the cell
	

---END OF REPORT---

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

CERTIFICATE NO.: 2023010915565657

NAME AND ADDRESS OF THE APPLICANT

Ganzhou Tuoyuan New Energy Co., Ltd.
Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou,Jiangxi,China

NAME AND ADDRESS OF THE MANUFACTURER

Ganzhou Tuoyuan New Energy Co., Ltd.
Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou,Jiangxi,China

NAME AND LOCATION OF THE FACTORY

Ganzhou Tuoyuan New Energy Co., Ltd.
Building No.8, No.7,No.5,No.4, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou,Jiangxi,China

PRODUCT NAME,MODEL AND SPECIFICATION

Polymer Li-ion Battery

1260110：Rated Capacity：10000mAh，Nominal Voltage：3.7V，Limited Charging Voltage：4.2V，Nominal Energy：37Wh；1260110-1 :Rated Capacity :9500mAh ,Nominal Voltage :3.7V ,Limited Charging Voltage :4.2V ,Nominal Energy：35.15Wh；1260110-2：Rated Capacity：9000mAh，Nominal Voltage：3.7V，Limited Charging Voltage：4.2V，Nominal Energy：33.3Wh；

STANDARDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS

GB 31241-2022

This is to certify that the above mentioned product(s) complies with the requirements of implementation rules for compulsory certification(REFNO. CNCA-C09-02:2025).

Valid from: Dec.03,2025 **Valid until:** Aug.23,2028

Date of original issued: Aug.24,2023

The certificate information and validity could be checked by scanning the QR code below or logging in to the website of the issuing authority, or on the website of the CNCA (www.cnca.gov.cn).

SIGNATURE: 谢肇煦

中国质量认证中心
CHINA QUALITY CERTIFICATION CENTRE

CHINA QUALITY CERTIFICATION CENTRE CO., LTD.

202319001340

中国认可
国际互认
检测
TESTING
CNAS L0468

国家强制性产品认证
试验报告

□新申请 ☑变更 □监督 □复审 □其他:

申请编号:　A2025CCC0915-4832354

产品名称:　聚合物锂离子电池

申请型号:　1260110、1260110-1、1260110-2

检测机构:　广东省东莞市质量监督检测中心

使用前，请扫码确认。

样品名称：聚合物锂离子电池 样品型号：主检型号：1260110； 系列型号：**1260110-1**；系列型号：**1260110-2** 样品数量：1260110：4个； **1260110-1**：1个； **1260110-2**：1个 样品来源：生产现场抽样 收样日期：2025-09-25 完成日期：2025-10-15	委托人：赣州拓远新能源有限公司 委托人地址：江西省赣州市信丰县迎宾大道5G科技产业园北区7、8号厂房 生产者：赣州拓远新能源有限公司 生产者地址：江西省赣州市信丰县迎宾大道5G科技产业园北区7、8号厂房 生产企业：赣州拓远新能源有限公司 生产企业地址：**江西省赣州市信丰县迎宾大道5G科技产业园北区4、5、7、8号厂房**

试验依据标准：

GB 31241-2022《便携式电子产品用锂离子电池和电池组 安全技术规范》

试验结论：合格

本申请单元所覆盖的产品型号：

见样品描述及说明。

主检：李耀权 签名：　日期：2025-10-15

审核：陈贵彦 签名：　日期：2025-10-15

盖　章

2025年10月15日

签发人：陈伟权　　签名：

签发日期：2025-10-15

备注：

1.认证实施规则：CNCA-C09-02:2025《强制性产品认证实施规则 移动电源、锂离子电池和电池组(试行)》。

2.本次申请为变更申请。

报 告 组 成

报告内容	有无	页数	编号
封面	√	1	16101-X250900643
首页	√	1	16101-X250900643
报告组成	√	1	16101-X250900643
变更确认表	√	2	16101-X250900643-M
产品描述报告	√	17	16101-X250900643-P
封底	√	1	/
安全测试报告	√	3	16101-X250900643-D

本报告由表中划√的所有内容组成.

变更确认表

序号和名称	变更前 【原申请编号：A2023CCC0915-4240575、A2023CCC0915-4400073、A2024CCC0915-4591273】 【原证书编号：2023010915565657】	变更后 【本次申请编号：A2025CCC0915-4832354】
1.变更系列产品型号	系列型号：1260110（额定容量：9500mAh） 系列型号：1260110（额定容量：9000mAh）	**系列型号：1260110-1（额定容量：9500mAh）** **系列型号：1260110-2（额定容量：9000mAh）**
2.变更安全工作参数中的放电截止电压、下限放电温度、最大放电电流	放电截止电压：3.0V 下限放电温度：-10℃ 主检型号1260110（额定容量：10000mAh）最大放电电流：15000mA 系列型号1260110（额定容量：9500mAh）最大放电电流：14250mA 系列型号1260110（额定容量：9000mAh）最大放电电流：13500mA	**放电截止电压：2.75V** **下限放电温度：-20℃** **主检型号1260110最大放电电流：10000mA** **系列型号1260110-1最大放电电流：9500mA** **系列型号1260110-2最大放电电流：9000mA**
3.增加铭牌样式	一种铭牌样式	**两种铭牌样式（排版不同，规格参数一样，仅生产日期编码方式不同）**
4.变更生产企业地址	江西省赣州市信丰县迎宾大道5G科技产业园北区7、8号厂房	**江西省赣州市信丰县迎宾大道5G科技产业园北区4、5、7、8号厂房**
5.勘误电池极端类型	引线	**极耳**
6.增加关键件清单（隔膜材料）管控信息	无隔膜材料厚度信息	**增加隔膜材料厚度信息**
7.变更认证实施规则	CNCA-C09-01:2023《强制性产品认证实施规则 电子产品及安全附件》	**CNCA-C09-02:2025《强制性产品认证实施规则 移动电源、锂离子电池和电池组(试行)》**

安全试验	变更第1项，变更系列产品型号；变更第2项，变更放电截止电压、下限放电温度、最大放电电流，实物未发生变化，变更的工作参数不影响产品安全性能；变更第3项，增加铭牌样式；变更第4项，变更生产企业地址；变更第5项，勘误电池极端类型；变更第6项，增加关键件清单（隔膜材料）管控信息；变更第7项，变更认证实施规则。针对以上变更项，均不影响安全性能，安全无需补做试验。

变更结论：本次变更不影响产品的安全性能。
经审核，同意其变更，变更后内容替换变更前内容。

产品描述报告

产品名称:	聚合物锂离子电池
申请型号规格:	主检型号：1260110 规格：标称电压：3.7V 额定容量：10000mAh 额定能量：37Wh 充电限制电压：4.2V 系列型号：**1260110-1** 规格：标称电压：3.7V 额定容量：9500mAh 额定能量：35.15Wh 充电限制电压：4.2V 系列型号：**1260110-2** 规格：标称电压：3.7V 额定容量：9000mAh 额定能量：33.3Wh 充电限制电压：4.2V

产品功能描述、产品组成描述:

1.本次申请的产品为聚合物锂离子电池，其可进行多次充电和放电，应用于便携式电子产品。

2.本次申请的聚合物锂离子电池由正极材料，负极材料，隔膜材料，电解液等组成。

系列型号差异描述:

本次申请的产品型号为系列型号，系列型号之间的差异仅为型号、额定容量、额定能量、推荐充电电流、最大充电电流、最大放电电流不同，其他均相同，根据实施规则选样要求，以上所有型号使用的材料相同、设计尺寸相同、安全设计相同、装配方式相同、类型相同、标称电压相同，额定容量变化在20%范围以内，测试型号可以覆盖本次申请的所有型号。

备注:

本次申请为变更申请，原报告已获得CCC认证，原证书编号：2023010915565657，原申请编号（报告编号）：A2023CCC0915-4240575（02301-0915-2023003）、A2023CCC0915-4400073（02301-0915-2024031）、A2024CCC0915-4591273（02301-0915-2024150），本报告需配合原报告一起使用。

样 品 描 述 及 说 明

1. 受检样品一般描述:

本申请产品属于: [✓]电池 [ ]电池组

本申请产品用于: [ ]手机[ ]平板电脑[ ]笔记本电脑[ ]相机摄像机[ ]蓝牙耳机[ ]播放器[✓]其他便携式电子产品

电池正极材料类别: [ ]钴酸锂[ ]磷酸亚铁锂[ ]锰酸锂[✓]三元材料[ ]其他_____

电池/电池组的安装方式: [ ]用户可更换型[✓]非用户更换型

电池/电池组外观: [ ]圆柱式[✓]方式[ ]组合式[ ]其他_____

电池/电池组内部连接方式: [✓]单体电池 [ ]单电芯电池组 [ ]多电芯电池组 串__并

电池/电池组保护方式: [ ]电子线路[ ]热保险丝[ ]热敏电阻[✓]其他无

电池/电池组极端类型: [ ]插头[ ]压接片[ ]引线[ ]熔焊[ ]插入到输出插座的插脚

[✓]其他极耳

电池/电池组外壳的材料: [ ]不锈钢[✓]铝塑膜[ ]塑套[ ]注塑成形[ ]其他_____

2. 受检样品型号及规格:

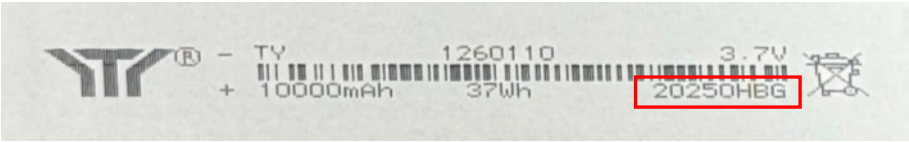
主检型号：聚合物锂离子电池，型号：1260110，规格：标称电压3.7V，额定容量10000mAh，额定能量37Wh，充电限制电压4.2V;

系列型号：聚合物锂离子电池，型号：**1260110-1**，规格：标称电压3.7V，额定容量9500mAh，额定能量35.15Wh，充电限制电压4.2V。

系列型号：聚合物锂离子电池，型号：**1260110-2**，规格：标称电压3.7V，额定容量9000mAh，额定能量33.3Wh，充电限制电压4.2V。

3. 产品标签图:

1) 主检型号：1260110



电池（芯）标签（电池的最大表面的面积≥4cm²）（红色框为生产日期代码）

规格书中注释内容如下:

样 品 描 述 及 说 明

产品规格书

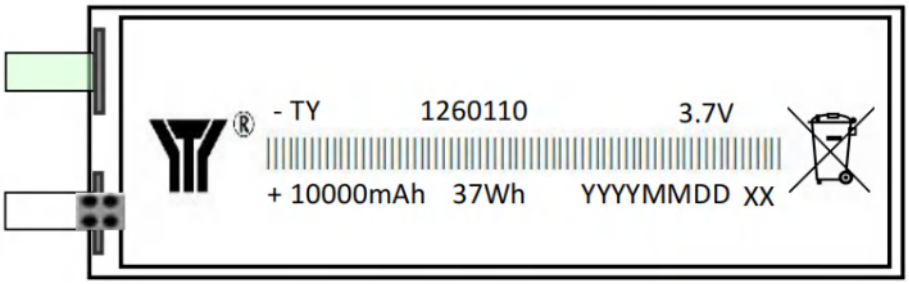
Polymer Li-ion Battery

聚合物锂离子电池

4. Product Specification 产品规格

NO.	Items 项目	Specifications 规格	Remark 备注
4.1	Nominal Voltage 标称电压	3.7V	
4.2	Limited charging voltage 充电限制电压 (U_{cl})	4.2V	
4.3	Upper limited charging voltage 充电上限电压(U_{up})	4.25V	

喷码1规格说明



样 品 描 述 及 说 明

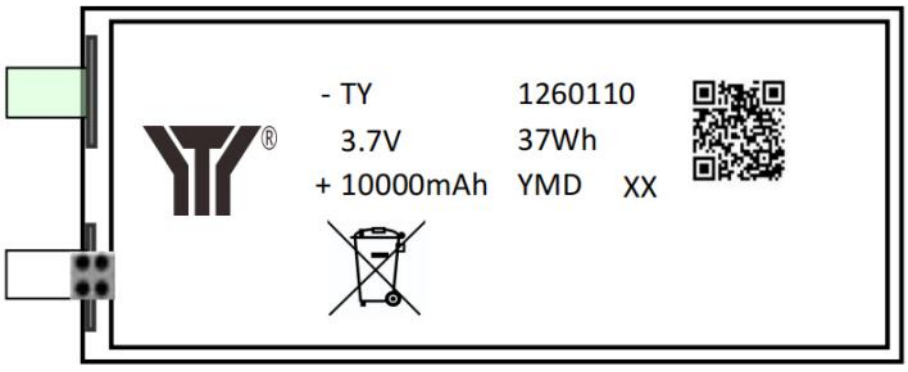
(2) Inkjet information 喷码1信息

◇ +/ - Representative electrode polarity
◇ +/ - 代表电极极性
◇ TY Representing the manufacturer, Ganzhou Tuoyuan New Energy Co., Ltd.
◇ TY 代表生产厂商赣州拓远新能源有限公司
◇ 1260110 Representative cell model
◇ 1260110 代表电芯型号
◇ 3.7V Representative nominal voltage(代表标称电压)
◇ 37Wh Representative rated energy(代表额定能量)
◇ 10000mAh Representative rated capacity(代表额定容量)
◇ YYYY Representative year(代表年份)
◇ MM Representative month(代表月份)
◇ DD Representative day(代表日期)
◇ XX The representative adds code distinctions when there are special requirements; otherwise, it can be omitted.
◇ XX 代表针对有特殊要求时增加代码区分，无特殊要求可省略

(3)Date and time description 年月日描述

年份YYYY	代码	月份MM	代码	日期DD	代码	日期DD	代码	日期DD	代码
2023	2023	1	0A	1	0A	13	AC	25	BE
2024	2024	2	0B	2	0B	14	AD	26	BF
2025	2025	3	0C	3	0C	15	AE	27	BG
2026	2026	4	0D	4	0D	16	AF	28	BH
2027	2027	5	0E	5	0E	17	AG	29	BJ
2028	2028	6	0F	6	0F	18	AH	30	C0
2029	2029	7	0G	7	0G	19	AJ	31	CA
2030	2030	8	0H	8	0H	20	B0	（生产日期不使用字母O和I）	
2031	2031	9	0J	9	0J	21	BA		
2032	2032	10	A0	10	A0	22	BB		
2033	2033	11	AA	11	AA	23	BC		
2034	2034	12	AB	12	AB	24	BD		

喷码2规格说明



样 品 描 述 及 说 明

(5) Inkjet information 喷码2信息

◇ TY Representing the manufacturer, Ganzhou Tuoyuan New Energy Co., Ltd.
◇ TY 代表生产厂商赣州拓远新能源有限公司
◇ 1260110 Representative cell model
◇ 1260110 代表电芯型号
◇ 3.7V Representative nominal voltage(代表标称电压)
◇ 10000mAh Representative rated capacity(代表额定容量)
◇ 37Wh Representative rated energy(代表额定能量)
◇ Y Representative year(代表年份)
◇ M Representative month(代表月份)
◇ D Representative day(代表日)
◇ XX The representative adds code distinctions when there are special requirements; otherwise, it can be omitted.
◇ XX 代表针对有特殊要求时增加代码区分，无特殊要求可省略

(6)Date and time description 年月日描述

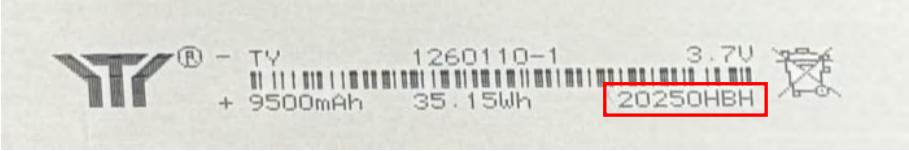
年份Y	代码	月份M	代码	日期D	代码	日期D	代码	日期D	代码
2025	F	1	1	1	1	13	D	25	S
2026	G	2	2	2	2	14	E	26	T
2027	H	3	3	3	3	15	F	27	V
2028	J	4	4	4	4	16	G	28	W
2029	K	5	5	5	5	17	H	29	X
2030	L	6	6	6	6	18	J	30	Y
2031	M	7	7	7	7	19	K	31	0
2032	N	8	8	8	8	20	L	（生产日期不使用字母O和I）	
2033	P	9	9	9	9	21	M		
2034	R	10	A	10	A	22	N		
2035	S	11	B	11	B	23	P		
2036	T	12	C	12	C	24	R		

(7)The QR code content information 二维码内容信息

◇Characters 1-4 GZTY - Enterprise Code (Ganzhou Tuoyuan in capital letters, abbreviated form)
◇第 1-4 位字符 GZTY-企业编码(赣州拓远大写字母简写)
◇Characters 5 Product type code
◇第 5 位字符 产品类型编码
◇Characters 6 Battery type code
◇第 6 位字符 电池类型编码
◇Characters 7-9 Production date code
◇第 7-9 位字符 生产日期编码
◇Characters"-" list separator
◇分隔符"-" 分隔符(固定编码段和非固定识别码之间的分隔符，用短横线"-"进行分隔)
◇Characters 10-13 Internal production serial number coding of Ganzhou Tuoyuan New Energy
◇第 10-13 位字符 赣州拓远新能源生产序列号编码
◇Characters 14 Ganzhou Tuoyuan New Energy Production Line
◇第 14 位字符 赣州拓远新能源生产线
◇Characters 15-20 Battery serial number
◇第15-20位字符 电池流水码

2) 系列型号：**1260110-1**

样 品 描 述 及 说 明



电池（芯）标签（电池的最大表面的面积≥4cm²）（红色框为生产日期代码）

规格书中注释内容如下:

产品规格书

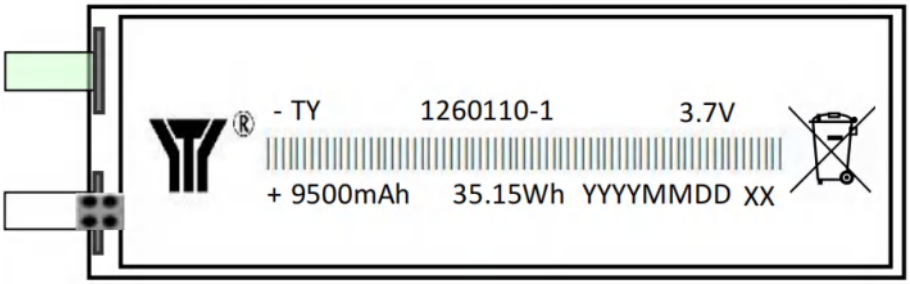
Polymer Li-ion Battery

聚合物锂离子电池

4. Product Specification 产品规格

NO.	Items 项目	Specifications 规格	Remark 备注
4.1	Nominal Voltage 标称电压	3.7V	
4.2	Limited charging voltage 充电限制电压 (U_{cl})	4.2V	
4.3	Upper limited charging voltage 充电上限电压(U_{up})	4.25V	

喷码1规格说明



样 品 描 述 及 说 明

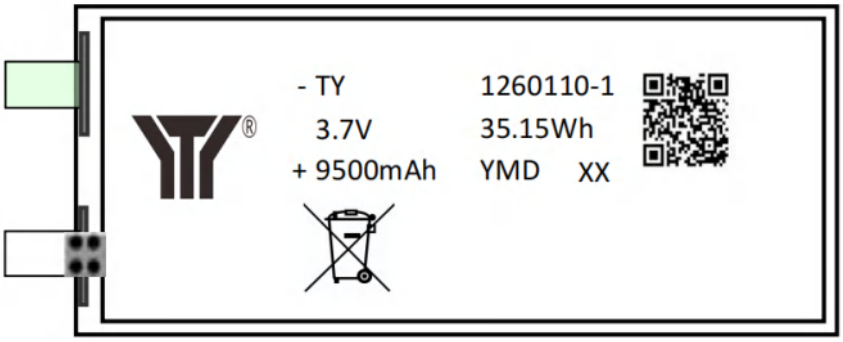
(2) Inkjet information 喷码1信息

◇ +/ - Representative electrode polarity
◇ +/ - 代表电极极性
◇ TY Representing the manufacturer, Ganzhou Tuoyuan New Energy Co., Ltd.
◇ TY 代表生产厂商赣州拓远新能源有限公司
◇ 1260110-1 Representative cell model
◇ 1260110-1 代表电芯型号
◇ 3.7V Representative nominal voltage(代表标称电压)
◇ 35.15Wh Representative rated energy(代表额定能量)
◇ 9500mAh Representative rated capacity(代表额定容量)
◇ YYYY Representative year(代表年份)
◇ MM Representative month(代表月份)
◇ DD Representative day(代表日期)
◇ XX The representative adds code distinctions when there are special requirements; otherwise, it can be omitted.
◇ XX 代表针对有特殊要求时增加代码区分，无特殊要求可省略

(3)Date and time description 年月日描述

年份YYYY	代码	月份MM	代码	日期DD	代码	日期DD	代码	日期DD	代码
2023	2023	1	0A	1	0A	13	AC	25	BE
2024	2024	2	0B	2	0B	14	AD	26	BF
2025	2025	3	0C	3	0C	15	AE	27	BG
2026	2026	4	0D	4	0D	16	AF	28	BH
2027	2027	5	0E	5	0E	17	AG	29	BJ
2028	2028	6	0F	6	0F	18	AH	30	C0
2029	2029	7	0G	7	0G	19	AJ	31	CA
2030	2030	8	0H	8	0H	20	B0	（生产日期不使用字母O和I）	
2031	2031	9	0J	9	0J	21	BA		
2032	2032	10	0K	10	A0	22	BB		
2033	2033	11	0L	11	AA	23	BC		
2034	2034	12	0M	12	AB	24	BD		

喷码2规格说明



样 品 描 述 及 说 明

(5) Inkjet information 喷码2信息

◇ TY Representing the manufacturer, Ganzhou Tuoyuan New Energy Co., Ltd.
◇ TY 代表生产厂商赣州拓远新能源有限公司
◇ 1260110-1 Representative cell model
◇ 1260110-1 代表电芯型号
◇ 3.7V Representative nominal voltage(代表标称电压)
◇ 9500mAh Representative rated capacity(代表额定容量)
◇ 35.15Wh Representative rated energy(代表额定能量)
◇ Y Representative year(代表年份)
◇ M Representative month(代表月份)
◇ D Representative day(代表日)
◇ XX The representative adds code distinctions when there are special requirements; otherwise, it can be omitted.
◇ XX 代表针对有特殊要求时增加代码区分，无特殊要求可省略

(6)Date and time description 年月日描述

年份Y	代码	月份M	代码	日期D	代码	日期D	代码	日期D	代码
2025	F	1	1	1	1	13	D	25	S
2026	G	2	2	2	2	14	E	26	T
2027	H	3	3	3	3	15	F	27	V
2028	J	4	4	4	4	16	G	28	W
2029	K	5	5	5	5	17	H	29	X
2030	L	6	6	6	6	18	J	30	Y
2031	M	7	7	7	7	19	K	31	0
2032	N	8	8	8	8	20	L	（生产日期不使用字母O和I）	
2033	P	9	9	9	9	21	M		
2034	R	10	A	10	A	22	N		
2035	S	11	B	11	B	23	P		
2036	T	12	C	12	C	24	R		

(7)The QR code content information 二维码内容信息

◇Characters 1-4 GZTY - Enterprise Code (Ganzhou Tuoyuan in capital letters, abbreviated form)
◇第 1-4 位字符 GZTY-企业编码(赣州拓远大写字母简写)
◇Characters 5 Product type code
◇第 5 位字符 产品类型编码

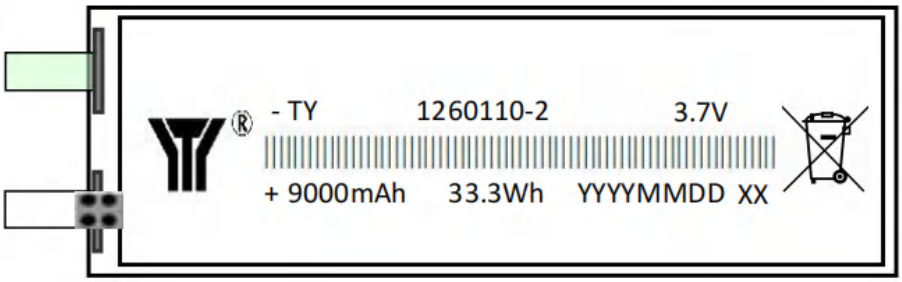
◇Characters 6 Battery type code
◇第 6 位字符 电池类型编码
◇Characters 7-9 Production date code
◇第 7-9 位字符 生产日期编码
◇Characters"-" list separator
◇分隔符"-" 分隔符(固定编码段和非固定识别码之间的分隔符，用短横线"-"进行分隔)
◇Characters 10-13 Internal production serial number coding of Ganzhou Tuoyuan New Energy
◇第 10-13 位字符 赣州拓远新能源生产序列号编码
◇Characters 14 Ganzhou Tuoyuan New Energy Production Line
◇第 14 位字符 赣州拓远新能源生产线
◇Characters 15-20 Battery serial number
◇第15-20位字符 电池流水码

3) 系列型号：**1260110-2**

样 品 描 述 及 说 明

电池（芯）标签（电池的最大表面的面积≥4cm²）（红色框为生产日期代码）

规格书中注释内容如下：



喷码1规格说明

(2) Inkjet information 喷码1信息

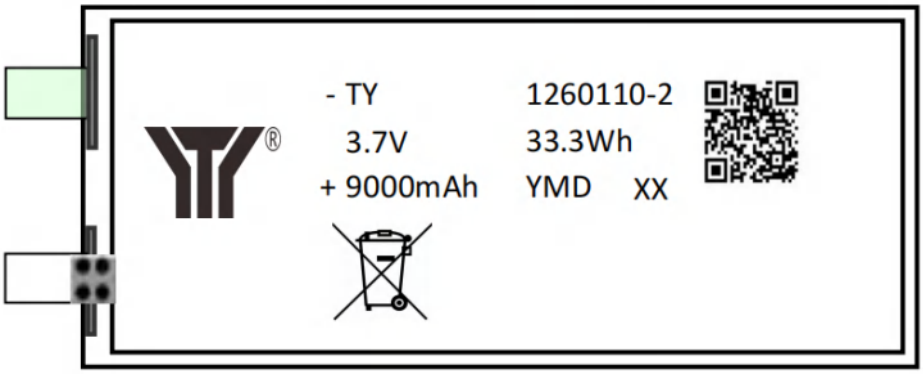
- ◇ +/- Representative electrode polarity
- ◇ +/- 代表电极极性
- ◇ TY Representing the manufacturer, Ganzhou Tuoyuan New Energy Co., Ltd.
- ◇ TY 代表生产厂商赣州拓远新能源有限公司
- ◇ 1260110-2 Representative cell model
- ◇ 1260110-2 代表电芯型号
- ◇ 3.7V Representative nominal voltage(代表标称电压)
- ◇ 33.3Wh Representative rated energy(代表额定能量)
- ◇ 9000mAh Representative rated capacity(代表额定容量)
- ◇ YYYY Representative year(代表年份)
- ◇ MM Representative month(代表月份)
- ◇ DD Representative day(代表日期)
- ◇ XX The representative adds code distinctions when there are special requirements; otherwise, it can be omitted.
- ◇ XX 代表针对有特殊要求时增加代码区分，无特殊要求可省略

(3)Date and time description 年月日描述

年份YYYY	代码	月份MM	代码	日期DD	代码	日期DD	代码	日期DD	代码
2023	2023	1	0A	1	0A	13	AC	25	BE
2024	2024	2	0B	2	0B	14	AD	26	BF
2025	2025	3	0C	3	0C	15	AE	27	BG
2026	2026	4	0D	4	0D	16	AF	28	BH
2027	2027	5	0E	5	0E	17	AG	29	BJ
2028	2028	6	0F	6	0F	18	AH	30	C0
2029	2029	7	0G	7	0G	19	AJ	31	CA
2030	2030	8	0H	8	0H	20	B0	（生产日期不使用字母O和I）	
2031	2031	9	0J	9	0J	21	BA		
2032	2032	10	0K	10	A0	22	BB		
2033	2033	11	0L	11	AA	23	BC		
2034	2034	12	0M	12	AB	24	BD		

喷码2规格说明

样 品 描 述 及 说 明



(5) Inkjet information 喷码2信息

◇ TY Representing the manufacturer, Ganzhou Tuoyuan New Energy Co., Ltd.
◇ TY 代表生产厂商赣州拓远新能源有限公司
◇ 1260110-2 Representative cell model
◇ 1260110-2 代表电芯型号
◇ 3.7V Representative nominal voltage(代表标称电压)
◇ 9000mAh Representative rated capacity(代表额定容量)
◇ 33.3Wh Representative rated energy(代表额定能量)
◇ Y Representative year(代表年份)
◇ M Representative month(代表月份)
◇ D Representative day(代表日)
◇ XX The representative adds code distinctions when there are special requirements; otherwise, it can be omitted.
◇ XX 代表针对有特殊要求时增加代码区分，无特殊要求可省略

(6)Date and time description 年月日描述

年份Y	代码	月份M	代码	日期D	代码	日期D	代码	日期D	代码
2025	F	1	1	1	1	13	D	25	S
2026	G	2	2	2	2	14	E	26	T
2027	H	3	3	3	3	15	F	27	V
2028	J	4	4	4	4	16	G	28	W
2029	K	5	5	5	5	17	H	29	X
2030	L	6	6	6	6	18	J	30	Y
2031	M	7	7	7	7	19	K	31	0
2032	N	8	8	8	8	20	L	（生产日期不使用字母O和I）	
2033	P	9	9	9	9	21	M		
2034	R	10	A	10	A	22	N		
2035	S	11	B	11	B	23	P		
2036	T	12	C	12	C	24	R		

(7)The QR code content information 二维码内容信息

◇Characters 1-4 GZTY - Enterprise Code (Ganzhou Tuoyuan in capital letters, abbreviated form)
◇第 1-4 位字符 GZTY-企业编码(赣州拓远大写字母简写)
◇Characters 5 Product type code
◇第 5 位字符 产品类型编码

样 品 描 述 及 说 明

◇Characters 6	Battery type code
◇第 6 位字符	电池类型编码
◇Characters 7-9	Production date code
◇第 7-9 位字符	生产日期编码
◇Characters"-"	list separator
◇分隔符"-"	分隔符(固定编码段和非固定识别码之间的分隔符，用短横线"-"进行分隔)
◇Characters 10-13	Internal production serial number coding of Ganzhou Tuoyuan New Energy
◇第 10-13 位字符	赣州拓远新能源生产序列号编码
◇Characters 14	Ganzhou Tuoyuan New Energy Production Line
◇第 14 位字符	赣州拓远新能源生产线
◇Characters 15-20	Battery serial number
◇第15-20位字符	电池流水码

4. 产品特殊描述:

1) 本次申请的产品为聚合物锂离子电池，单一电池（芯），不含保护电路。

2) 本次申请为变更申请，针对变更项，均不影响安全性能，安全无需补做试验。

其他重要描述：/

整改情况说明：/

安全关键件清单：

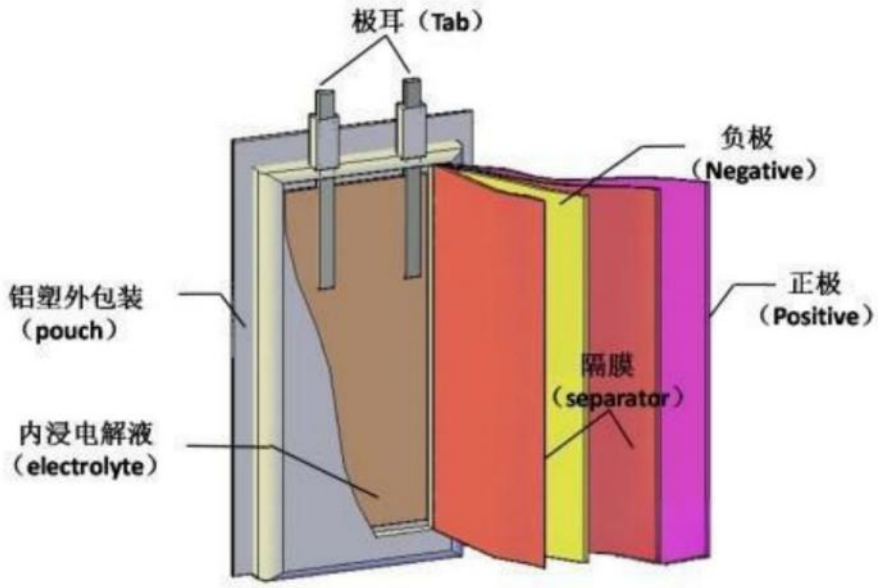
序号	关键件名称	型号	规格/材料	制造商（生产者）	生产厂（生产企业）	认证标准	备注
聚合物锂离子电池							
1	正极材料	ME-55SC2	材料体系： $Li(Ni_{0.5}Co_{0.2}Mn_{0.3})O_2$, PVDF, Conductive Additive 集流体材料: Aluminum Foil	江苏当升材料科技有限公司	江苏当升材料科技有限公司	GB 31241-2022	原报告随整机考核合格
2	负极材料	AGL-T	材料体系：Graphite, Conductive Additive 集流体材料: Copper Foil	赣州市瑞富特科技有限公司	赣州市瑞富特科技有限公司	GB 31241-2022	原报告随整机考核合格
3	隔膜材料	16（12+2+2）μm 陶瓷涂胶隔膜	材质: $PE+Al_2O_3$+PVDF 闭孔温度（℃）：130 **厚度：16μm**	东莞市中誉新材料科技有限公司	东莞市中誉新材料科技有限公司	GB 31241-2022	原报告随整机考核合格
4	电解液	HS-23077	$LiPF_{6+}$EC+DEC+EMC	湖南航盛新能源材料有限公司	湖南航盛新能源材料有限公司	GB 31241-2022	原报告随整机考核合格

保护电路原理图：/

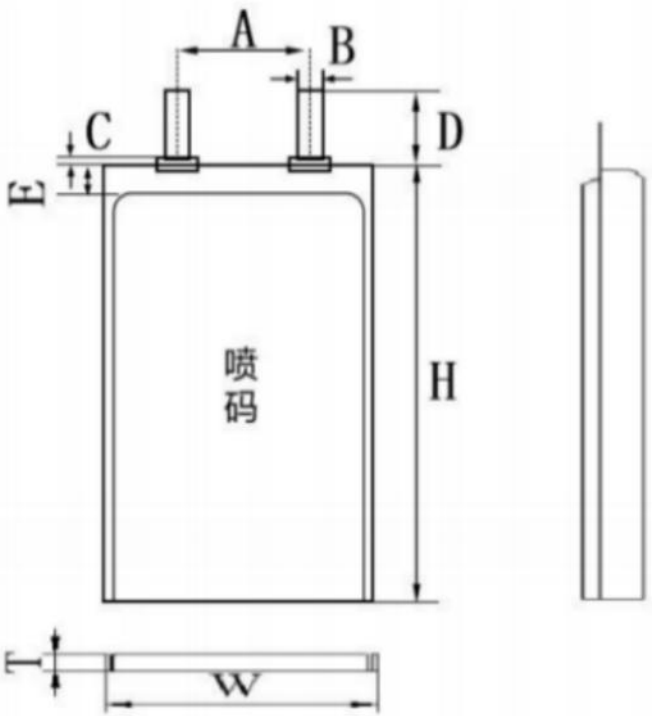
保护电路版图（正反面）：/

电池组结构示意图：/

电池结构示意图：



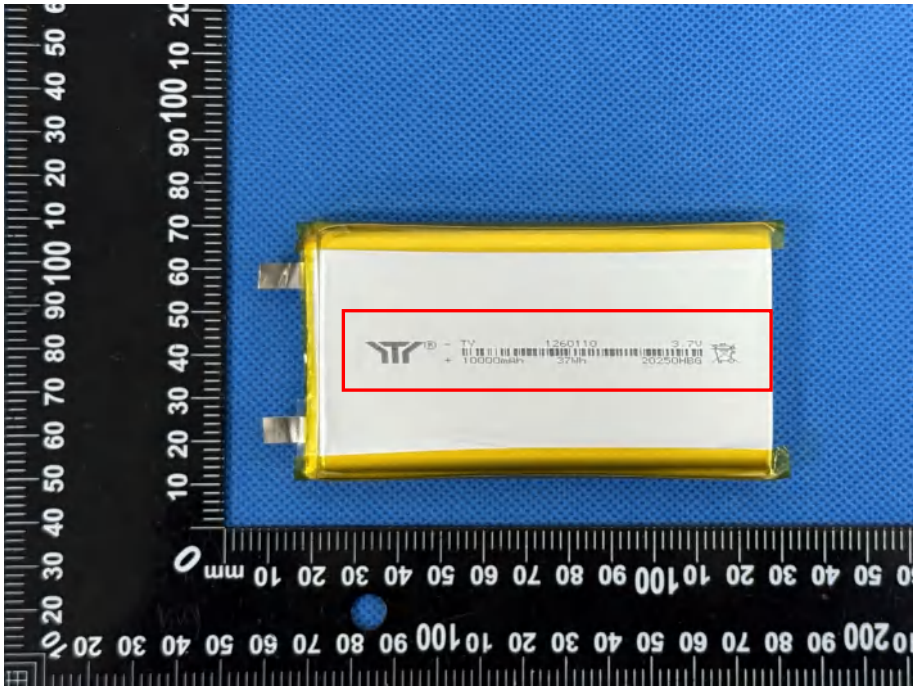
产品内部结构剖面图



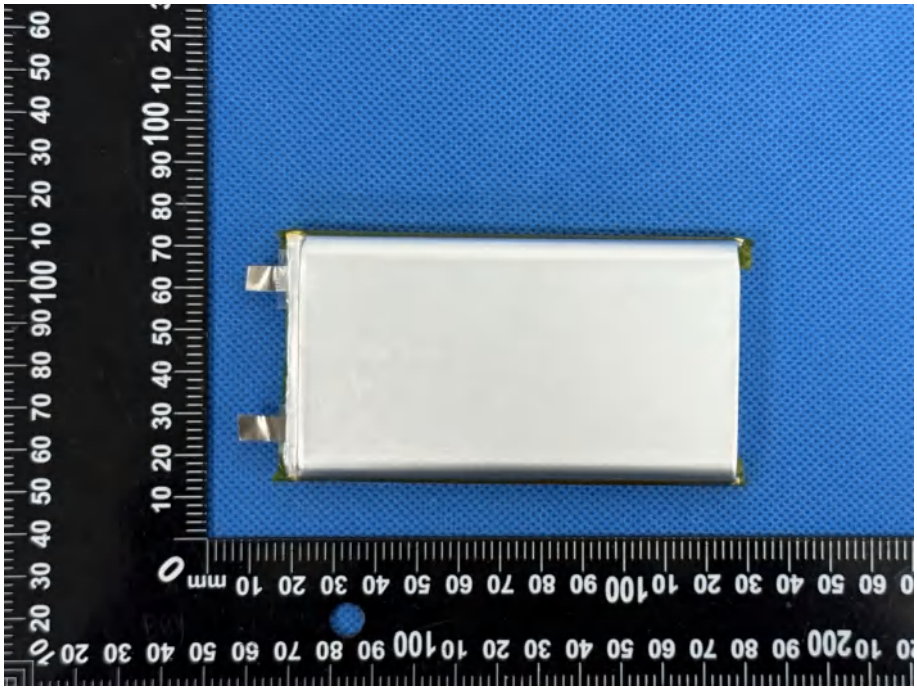
Items 项目	Dimension 尺寸	Description 描述
T	11.75±0.25mm	Thickness 厚度(不含胶纸）
W	60.20±1.0mm	Width 宽度（单折边）
H	110.5±1.0mm	Height 电芯高度

样品尺寸图（单位：mm）

样 品 照 片（安全）

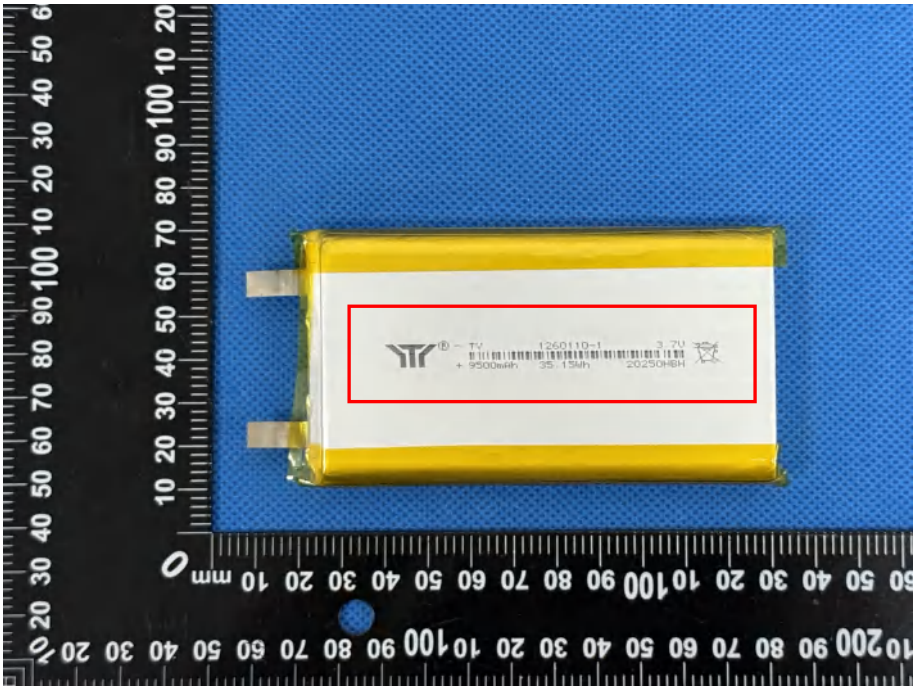


外观（红框所示为电池铭牌位置）（主检型号：1260110）

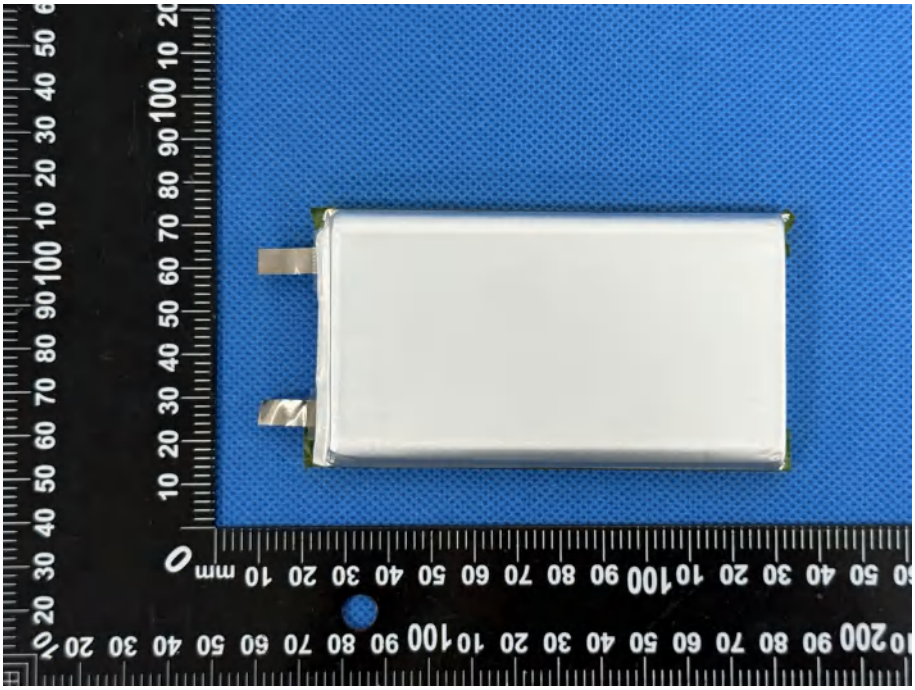


外观

样 品 照 片（安全）

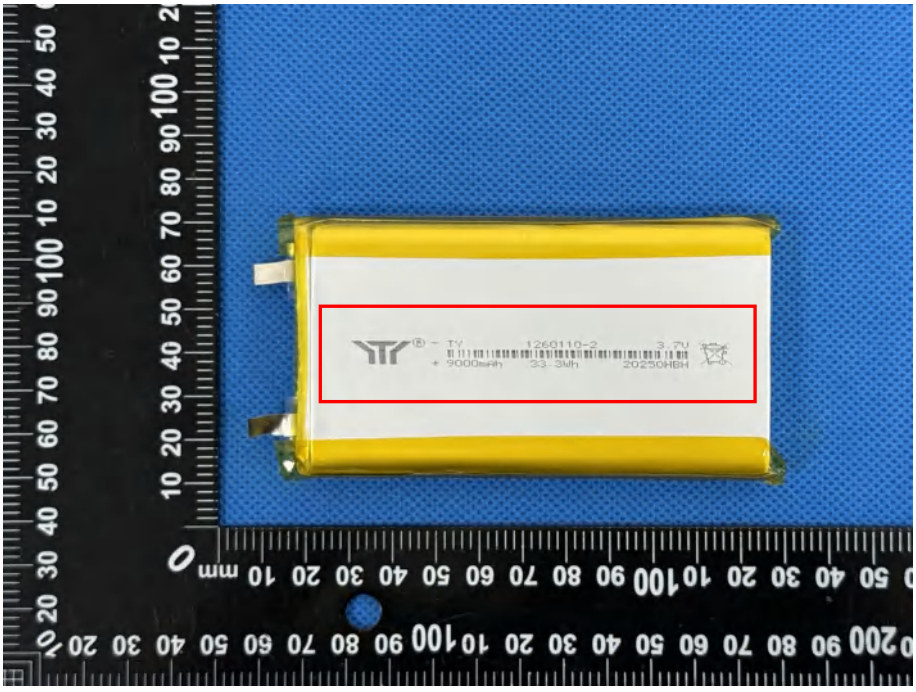


外观（红框所示为电池铭牌位置）（系列型号：**1260110-1**）

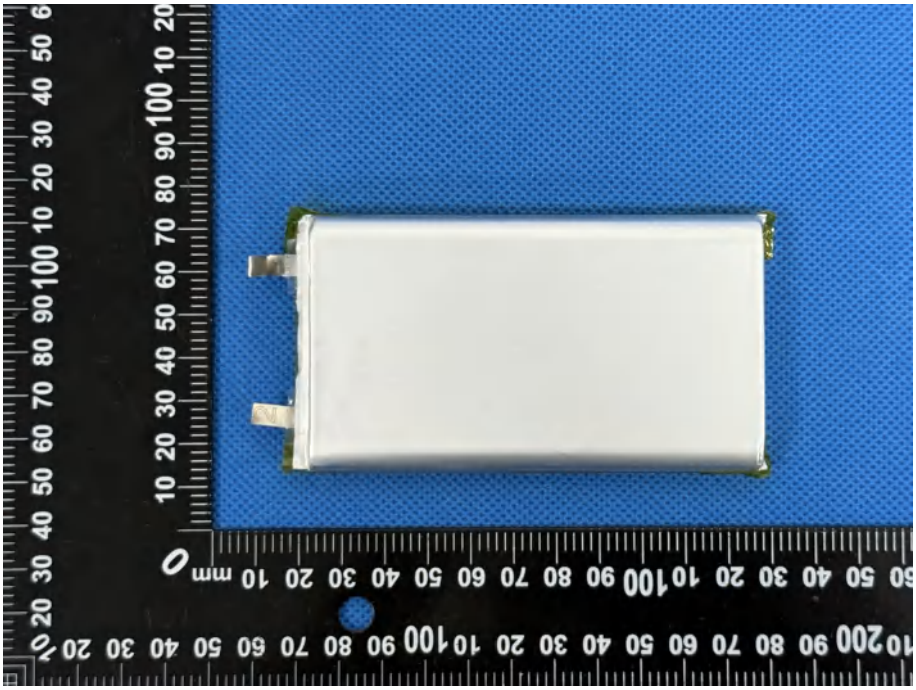


外观

样 品 照 片（安全）



外观（红框所示为电池铭牌位置）（系列型号：**1260110-2**）



外观

声　　明

本报告试验结果仅对受试样品有效

未经许可本报告不得部分复制

对本报告如有异议，请于收到报告之日起十五天内提出

试验单位：广东省东莞市质量监督检测中心

地　　址：广东省东莞市松山湖科技产业园区工业南路2号

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E-mail：fwj@gddqt.com

安 全 测 试 报 告

一般说明:

“（见附表）”指本报告的附加表格。

本报告出现的试验结果仅与试验样品有关。

除非全部复制，否则无试验室书面批准本报告不得部分复制.

可能的试验情况判定:	
- 试验情况不适用本试验产品	N/A
- 试验样品满足要求	P
- 试验样品不满足要求	F

GB 31241-2022			
条款	试验要求	试验结果	结论

5.2	安全工作参数		P
	制造商应在规格书中至少标明表6中的信息。电池组的参数应与其内部组成电池的参数相匹配。	符合要求	P

安全工作参数	符号	电池（1260110）	电池（**1260110-1**）	电池（**1260110-2**）	电池组	P
充电限制电压	U_{cl}	4.2V	4.2V	4.2V	—	
充电上限电压	U_{up}	4.25V	4.25V	4.25V	—	
放电截止电压	U_{do}	**2.75V**	**2.75V**	**2.75V**	—	
放电终止电压	U_{de}	3.0V	3.0V	3.0V	—	
推荐充电电流	I_{cr}	2000mA	1900mA	1800mA	—	
最大充电电流	I_{cm}	10000mA	9500mA	9000mA	—	
推荐放电电流	I_{dr}	2000mA	1900mA	1800mA	—	
最大放电电流	I_{dm}	**10000mA**	**9500mA**	**9000mA**	—	
过压充电保护电压	U_{cp}	—	—	—	—	P
过流充电保护电流	I_{cp}	—	—	—	—	
欠压放电保护电压	U_{dp}	—	—	—	—	
过流放电保护电流	I_{dp}	—	—	—	—	
上限充电温度	T_{cm}	55℃	55℃	55℃	—	
下限充电温度	T_{cl}	0℃	0℃	0℃	—	
上限放电温度	T_{dm}	60℃	60℃	60℃	—	
下限放电温度	T_{dl}	**-20℃**	**-20℃**	**-20℃**	—	

试验仪器设备清单

序号	仪器设备名称	型 号	编 号	制造厂商	校准有效期至	本次使用（✓）
/	/	/	/	/	/	/

UN38.3 测试报告
UN38.3 Test Report

委托单位名称: Applicant's Name:	赣州拓远新能源有限公司 Ganzhou Tuoyuan New Energy Co., Ltd.
物品名称: Name of Goods:	聚合物锂离子电池 1260110 3.7V 10000mAh 37Wh Polymer Li-ion Battery 1260110 3.7V 10000mAh 37Wh
测试机构: Testing By:	深圳市元素检测有限公司 Shenzhen Element Testing Co., Ltd.
测试机构地址: Testing Institution Address:	深圳市龙岗区坪地街道坪西社区龙岭北路 76 号 2 号厂房 401、4 号厂房 101 邮编 518117 101 of Plant 4, & 401 of Plant 2, No.76, Longling North Road, Pingxi, Pingdi Subdistrict, Longgang District, Shenzhen, Guangdong, China/518117
签发日期: Issue Date:	2025-12-08

主检人: Tested By:	冯伟华/测试工程师 Will Feng/Test Engineer	冯伟华 Will Feng
审核人: Checked By:	叶小媚/项目工程师 April Ye/Project Engineer	叶小媚 April Ye
批准人: Approved By:	张钦敏/技术负责人 Kim Zhang/Technical Director	张钦敏 Kim Zhang

报告单位（盖章）
Stamp

样品名称 Sample Name	聚合物锂离子电池 Polymer Li-ion Battery		样品型号 Sample Model	1260110	
商标 Brand			检测类别 Test Classification	委托测试 Commission Test	
委托单位名称 Applicant's Name	赣州拓远新能源有限公司 Ganzhou Tuoyuan New Energy Co., Ltd.				
委托单位地址 Applicant's Address	江西省赣州市信丰县迎宾大道 5G 科技产业园北区 7、8 号厂房 Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou, Jiangxi, China				
制造商名称 Manufacturer's Name	赣州拓远新能源有限公司 Ganzhou Tuoyuan New Energy Co., Ltd.				
制造商地址 Manufacturer's Address	江西省赣州市信丰县迎宾大道 5G 科技产业园北区 7、8 号厂房 Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou, Jiangxi, China				
电话 Telephone	+86-13418874839	邮箱 Email	eva_kangmin@126.com	网址 Website	www.topfar-battery.com
样品接收日期 Sample Receiving Date	2025-11-07				
测试日期 Testing Date	2025-11-07~2025-11-21				
测试标准 Test Standard	联合国《试验和标准手册》（第八修订版）38.3 节。 UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3.				
测试结论 Test Conclusion	该电池符合联合国《试验和标准手册》（第八修订版）38.3 节标准要求。 The samples have passed the test items of UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3.				

I、样品描述 Sample Description			
样品型号 Sample Model	1260110	标称电压 Nominal Voltage	3.7V
额定容量 Rated Capacity	10000mAh	额定能量 Rated Energy	37Wh
标准充电电流 Standard Charge Current	2000mA	标准放电电流 Standard Discharge Current	2000mA
最大充电电流 Max. Charge Current	10000mA	最大放电电流 Max. Discharge Current	10000mA
充电电压 Charge Voltage	4.2V	充电截止电流 End Charge Current	200mA
放电截止电压 Discharge Cut-off Voltage	3.0V	外观形状 Appearance	银色近长方体 Approximate Silver Cuboid
样品尺寸 Sample Size (L×W×T)	(110.0×60.0×12.0)mm	样品质量 Sample Mass	168.021g

II、测试程序 Test Procedure

1. 每一种类型的电池均应进行 T.1 至 T.8 项试验。电池必须按顺序在相同的一组电池上进行试验 T.1 至 T.5。试验 T.6 和 T.8 应使用未另外试验过的电池。试验 T.7 可以使用先前在试验 T.1 至 T.5 中使用过的未损坏电池进行，以便测试进行在循环过的电池上。

Each battery type is subjected to tests T.1 to T.8. Tests T.1 to T.5 are conducted in sequence on the same battery. Tests 6 and 8 are conducted using not otherwise tested batteries. Test T.7 may be conducted using undamaged batteries previously used in Tests T.1 to T.5 for purposes of testing on cycled batteries.

2. 为了量化质量损失，可用以下公式计算：质量损失(%)=(M1-M2)/M1×100

In order to quantify the mass loss, the following procedure is provided: Mass loss(%)=(M1-M2)/M1×100

式中：M1 是试验前的质量，M2 是试验后的质量。如果质量损失不超过下表所列的数值，应视为“无质量损失”。

Where M1 is the mass before the test and M2 is the mass after the test. When mass loss does not exceed the values in Table below, it is considered as "no mass loss".

表格 38.3.1：质量损失限制

Table 38.3.1: Mass loss limit

电芯或电池的质量 Mass M of cell or battery	质量损失限值 Mass loss limit
M＜1g	0.5%
1g ≤ M ≤ 75g	0.2%
M＞75g	0.1%

3. 在测试 T.1 至 T.4 中，电池须满足无渗漏、无排气、无解体、无破裂和无起火，并且每个试验电池在试验后的开路电压不小于其在进行这一试验前电压的 90%。

In test T.1 to T.4, batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test battery after testing is not less than 90% of its voltage immediately prior to this procedure.

渗漏是指可以看到的电解液或者其他物质从电池或电池组中漏出，或电池、电池组中的物质损失（不包括电池外壳、搬运装置、或标签），质量损失超过表格 38.3.1 所列的数值。

Leakage means the visible escape of electrolyte or other material from a cell or battery or the loss of material (except battery casing, handling devices or labels) from a cell or battery such that the loss of mass exceeds the values in Table 38.3.1

排气是指按设计方式释放电池或电池组内部过高的压力，防止其破裂或解体。

Venting means the release of excessive internal pressure from a cell or battery in a manner intended by design to preclude rupture or disassembly

解体是指排气或破裂使电池或电池组任何部分的固体物质穿过放在离电池或电池 25cm 处的丝网筛（直径 0.25mm 的软铝丝，网格密度每厘米 6 至 7 条铝丝）

Disassembly means a vent or rupture where solid matter from any part of a cell or battery penetrates a wire mesh screen (annealed aluminium wire with a diameter of 0.25 mm and grid density of 6 to 7 wires per cm) placed 25 cm away from the cell or battery.

破裂是指内部或外部原因引起的电池容器或电池组外壳机械损坏，造成内装物暴露或溢出，但无固体喷射。

Rupture means the mechanical failure of a cell container or battery case induced by an internal or external cause, resulting in exposure or spillage but not ejection of solid materials

起火是指试验电池或电池组有火焰冒出。

Fire means that flames are emitted from the test cell or battery

III、一般说明 General description

本报告出现的试验结果仅与试验样品有关。

The test results presented in this report relate only to the object tested.

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This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

可能的试验情况判定 Possible test case verdicts	
－试验情况不适用本试验产品 －Test case does not apply to the test object	不适用 N/A (Not applicable)
－试验样品满足要求 －Test object does meet the requirement	通过 P (Passed)
－试验样品不满足要求 －Test object does not meet the requirement	失败 F (Fail)

IV、测试项目及样品编号描述 Test items description and number of the sample

测试项目 Test items	样品编号 Sample Number
T.1: 高度模拟 Altitude simulation	电池/cells: C01~C10
T.2: 温度测试 Thermal test	
T.3: 振动 Vibration	
T.4: 冲击 Shock	
T.5: 外部短路 External short circuit	
T.6: □撞击 Impact / ☒挤压 Crush	电池/cells: C11~C20
T.7: 过度充电 Overcharge	不适用 N/A
T.8: 强制放电 Forced discharge	电池/cells: C21~C40

V、样品预处理状态描述说明 Pre-treatment status description and illustration of sample

测试项目 Test item	样品编号 Sample No.	预处理状态 Pre-treatment state	备注 Remark
T.1~T.5	C01~C05	在第一次循环完全充电状态。 At first cycle, in fully charged states.	--
	C06~C10	在 25 次循环结束后完全充电状态。 After 25 cycles ending in fully charged states.	--
T.6	C11~C15	在第一次循环 50%额定容量的荷电状态。 At first cycle at 50% of the design rated capacity.	--
	C16~C20	在 25 次循环结束后 50%额定容量的荷电状态。 After 25 cycles ending at 50% of the design rated capacity.	--
T.7	不适用 N/A	不适用 N/A	--
	不适用 N/A	不适用 N/A	--
T.8	C21~C30	在第一次循环完全放电状态。 At first cycle, in fully discharged states.	--
	C31~C40	在 25 次循环结束后完全放电状态。 After 25 cycles ending in fully discharged states.	--

备注：送检样品符合联合国《试验和标准手册》（第八修订版）38.3 节的要求。

Remark: The samples submitted for inspection meet the requirements of the UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3.

VI、测试方法 Test methods

章节 Clause	标准要求 Requirement	测试结果 Result	判定 Verdict
38.3.4.1	Test T.1: 高度模拟 Altitude simulation 试验电池和电池组应在压力等于或低于 11.6 千帕和环境温度 20±5℃下存放至少 6 小时。 Test cells and batteries shall be stored at a pressure of 11.6kPa or less for at least six hours at ambient temperature 20±5℃. 要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火，并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的 90%。有关电压的要求不适用于完全放电状态的电池和电池组。 Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90 % of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.	无渗漏、无排气、无解体、无破裂、 无起火，且测试后开路电压大于测试前开路电压的 90%。测试数据见表格 T.1 No leakage, no venting, no disassembly, no rupture and no fire, also open circuit voltage after testing is more than 90% of its initial voltage. Test data see table T.1	P
38.3.4.2	Test T.2: 温度试验 Thermal test 首先将样品放在 72±2℃的环境中放置至少 6 个小时，然后放在-40±2℃的环境中放置至少 6 个小时。温度转换的最大间隔时间为 30 分钟。如此循环 10 次，最后将样品放在 20±5℃的环境中静置 24 小时。 Test cells and batteries are to be stored for at least six hours at a test temperature equal to 72±2℃, followed by storage for at least six hours at a test temperature equal to -40±2℃. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature 20±5℃. 对于大型电池和电池组,暴露于极端试验温度的时间至少应为 12 小时。 For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours. 要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火，并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的 90%。有关电压的要求不适用于完全	无渗漏、无排气、无解体、无破裂、 无起火，且测试后开路电压大于测试前开路电压的 90%。测试数据见表格 T.2	P

	放电状态的试验电池和电池组。 Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.	No leakage, no venting, no disassembly, no rupture and no fire, also open circuit voltage after testing is more than 90% of its initial voltage. Test data see table T.2	
38.3.4.3	Test T.3: 振动 Vibration 电池和电池组紧固于振动机平台,但不得造成电池变形,并能准确可靠地传播振动。振动应是正弦波形，对数扫描频率在 7 赫兹和 200 赫兹之间，再回到 7 赫兹，跨度为 15 分钟。这一振动过程须对三个互相垂直的电池安装方位的每一方向重复进行 12 次，总共为时 3 小时。其中一个振动方向必须与端面垂直。 Cells and batteries are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7Hz and 200Hz and back to 7Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration must be perpendicular to the terminal face. 作对数式频率扫描,对总质量不足 12 千克的电池和电池组(电池和小型电池组），和对 12 千克及更大的电池组（大型电池组）有所不同。 The logarithmic frequency sweep shall differ for cells and batteries with a gross mass of not more than 12kg (cells and small batteries), and for batteries with a gross mass of more than 12kg (large batteries). 对电池和小型电池组：从 7 赫兹开始,保持 1gn 的最大加速度,直到频率达到 18 赫兹。然后将振幅保持在 0.8 毫米（总偏移 1.6 毫米）,并增加频率直到最大加速度达到 8gn（频率约为 50 赫兹）。将最大加速度保持在 8gn 直到频率增加到 200 赫兹。 For cells and small batteries: from 7 Hz a peak acceleration of 1gn is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 8gn occurs (approximately 50Hz). A peak acceleration of 8gn is then maintained until the frequency is increased to 200 Hz. 对大型电池组：从 7 赫兹开始,保持 1gn 的最大加速度，直到频率达到 18 赫兹。然后将振幅保持在 0.8 毫米（总偏移 1.6 毫米），并增加频率直到最大加速度达到 2gn（频率约为 25 赫兹）。将最大加速度保持在 2gn 直到频率增加到 200 赫兹。	P

	For large batteries: from 7Hz to a peak acceleration of 1gn is maintained until 18Hz is reached. The amplitude is then maintained at 0.8mm (1.6mm total excursion) and the frequency increased until a peak acceleration of 2gn occurs (approximately 25Hz). A peak acceleration of 2gn is then maintained until the frequency is increased to 200Hz.		
	要求电池和电池组试验中和试验后无渗漏、无排气、无解体、无破裂和无起火，并且每个试验电池或电池组在第三个垂直安装方位上的试验后立即测得的开路电压不小于在进行这一试验前电压的 90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。 Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire during the test and after the test and if the open circuit voltage of each test cell or battery directly after testing in its third perpendicular mounting position is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.	无渗漏、无排气、无解体、无破裂、 无起火，且测试后开路电压大于测试前开路电压的 90%。测试数据见表格 T.3 No leakage, no venting, no disassembly, no rupture and no fire, also open circuit voltage after testing is more than 90% of its initial voltage. Test data see table T.3	
38.3.4.4	Test T.4: 冲击 Shock 试验电池和电池组用坚硬支架紧固在试验装置上，支架支撑着每个试验电池组的所有安装面。每个电池需经受最大加速度 150gn 和脉冲持续时间 6 毫秒的半正弦波冲击。针对大型电池需经受最大加速度 50gn 和脉冲持续时间 11 毫秒的半正弦波冲击。 Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery. Each cell shall be subjected to a half-sine shock of peak acceleration of 150gn and pulse duration of 6 milliseconds. Alternatively, large cells may be subjected to a half-sine shock of peak acceleration of 50gn, and pulse duration of 11 milliseconds. 每个电池组应根据电池组的质量而受到峰值加速度的半正弦波冲击。对于小型电池组的脉冲持续时间应 6 毫秒，对于大型电池组的脉冲持续时间应为 11 毫秒，下面的公式用于计算适当的最小峰值加速度。 Each battery shall be subjected to a half-sine shock of peak acceleration depending on the mass of the battery. The pulse duration shall be 6 milliseconds for small batteries and 11 milliseconds for large batteries. The formulas below are provided to calculate the appropriate minimum peak accelerations.		P

电池 Battery	最小峰值加速度 Minimum peak acceleration	脉冲持续时间 Pulse duration
小型电池 Small batteries	$150g_n$ 或公式结果中的较小值 $150g_n$ or result of formula Acceleration $(g_n)=\sqrt{\left(\frac{100850}{mass^*}\right)}$ whichever is smaller	6毫秒 6ms
大型电池 Large batteries	$50g_n$ 或公式结果中的较小值 $50g_n$ or result of formula Acceleration $(g_n)=\sqrt{\left(\frac{3000}{mass^*}\right)}$ whichever is smaller	11毫秒 11ms

* 质量单位用千克计算 Mass is expressed in kilograms.

每个电池或电池组需在三个互相垂直的安装方位的正方向经受三次冲击，接着在反方向经受三次冲击，总共经受 18 次冲击。

Each cell or battery is subjected to three shocks in the positive direction followed by three shocks in the negative direction of each of three mutually perpendicular mounting positions of the cell for a total of 18 shocks.

	要求电池和电池组无渗漏、无排气、无解体、无破裂和无起火，并且每个试验电池或电池组在试验后的开路电压不小于其在进行这一试验前电压的 90%。有关电压的要求不适用于完全放电状态的试验电池和电池组。 Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.	无渗漏、无排气、无解体、无破裂、 无起火，且测试后开路电压大于测试前开路电压的 90%。测试数据见表格 T.4 No leakage, no venting, no disassembly, no rupture and no fire, also open circuit voltage after testing is more than 90% of its initial voltage. Test data see table T.4	
38.3.4.5	Test T.5: 外部短路 External short circuit 待测试的电池或电池组应加热一段时间，以使其外表面温度达到均匀稳定的 57±4℃的温度。加热时间取决于电池或电池组的大小和设计，并应进行评估和记录。如果这种评估是不可行的，对于小型电池和小型电池组至少在 57±4℃的环境下存放 6 小时，对于大型电池和大型电池组至少在 57±4℃的环境下存放 12 小时。然后电池或电池组在 57±4℃的环境中，应接受一个外部总阻值小于 0.1 欧姆的短路条件。 The cell or battery to be tested shall be heated for a period of time necessary to reach a homogeneous stabilized temperature of 57±4 ℃, measured on the external case. This period of time depends on the size and design of the cell or		P

	battery and should be assessed and documented. If this assessment is not feasible, the exposure time shall be at least 6 hours for small cells and small batteries, and 12 hours for large cells and large batteries. Then the cell or battery at 57±4℃ shall be subjected to one short circuit condition with a total external resistance of less than 0.1ohm. 这一短路条件应在电池或电池组的外壳温度回到 57±4℃后继续短路 1 小时，或对于大型电池组其外壳温度已下降了一半的最大升温，并保持低于该值。短路和冷却过程至少在环境温度中进行。 This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to 57±4℃, or in the case of the large batteries, has decreased by half of the maximum temperature increase observed during the test and remains below that value.		
	要求电池和电池组外壳温度不超过 170℃，并且在试验过程中及试验后 6 小时内无解体、无破裂、无起火。 Cells and batteries meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire during the test and within six hours after the test.	外表温度小于 170°C，在测试中及之后 6 小时内，无解体、无破裂、无起火。测试数据见表格 T.5 External temperature is less than 170°C, also no disassembly, no rupture and no fire during the test and within six hours after the test. Test data see table T.5	
38.3.4.6	Test T.6: ☐撞击 Impact ☒挤压 Crush		P
	撞击（适合于直径大于或等于 18mm 的圆柱形电池） Impact (applicable to cylindrical cells greater than or equal to 18mm in diameter)		N/A
	将样品放在一个平坦的光滑平面上。将一直径为 15.8mm±0.1mm，长度不小于 6cm 的 316 不锈钢棒横过样品中部放置后，将一质量为 9.1kg±0.1kg 的重物从 61±2.5cm 的高度落向样品。 The sample cell or component cell is to be placed on a flat smooth surface. A 15.8mm±0.1mm diameter, at least 6cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar is to be placed across the centre of the sample. A 9.1kg±0.1kg mass is to be dropped from a height of 61±2.5cm at the intersection of the bar and sample in a controlled manner using a near frictionless, vertical sliding track or channel with minimal drag on the falling mass. The vertical track or channel used to guide the falling mass shall be oriented 90 degrees from the horizontal supporting surface. 接受撞击的样品，纵轴应与平坦的表面平行并与横放在样品中心的直径 15.8mm±0.1mm 弯曲表面的纵轴垂直。每一个样品只接受一次撞击。 The test sample is to be impacted with its longitudinal axis parallel to the flat		

	surface and perpendicular to the longitudinal axis of the 15.8mm±0.1mm diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact.	
	要求电池和原件电池外壳温度不超过 170℃，并且在试验过程中及试验后 6 小时内无解体、无破裂、无起火。 Cells and component cells meet this requirement if their external temperature does not exceed 170°C and there is no disassembly, no rupture and no fire during the test and within six hours after this test.	电池外表温度小于 170°C，在测试中及之后 6 小时内无解体、无破裂、无起火。测试数据见表格 T.6 External temperature of cells is less than 170°C, also no disassembly, no rupture and no fire during the test and within six hours after the test. Test data see table T.6
	挤压（适用于棱柱形、袋状、硬币/纽扣电池和直径不超过 18mm 的圆柱形电池）。 Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells not more than 18mm in diameter).	
	将电池或元件电池放在两个平面之间挤压，挤压力度逐渐加大，在第一个接触点上的速度大约为 1.5 厘米/秒。挤压持续进行，直到出现以下三种情况之一： (a) 施加力达到 13kN±0.78kN； (b) 电池的电压下降至少 100mV； (c) 电池变形达原始厚度的 50%或以上。 A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1.5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached: (a) The applied force reaches 13kN±0.78Kn; (b) The voltage of the cell drops by at least 100mV; (c) The cell is deformed by 50% or more of its original thickness. 棱柱形或袋装电池应从最宽的一面施压。纽扣/硬币形电池应从其平坦表面施压。圆柱形电池应从与纵轴垂直的方向施压。 A prismatic or pouch cell shall be crushed by applying the force to the widest side. A button/coin cell shall be crushed by applying the force on its flat surfaces. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis. 每个试样电池或元件电池只做一次挤压试验。试样应继续观察 6 小时。试验应使用之前未做过其他试验的电池或元件电池进行。 Each test cell or component cell is to be subjected to one crush only. The test sample shall be observed for a further 6 h. The test shall be conducted using test cells or component cells that have not previously been subjected to other	P

	tests.		
	要求电池和原件电池外壳温度不超过 170℃，并且在试验过程中及试验后 6 小时内无解体、无破裂、无起火。 Cells and component cells meet this requirement if their external temperature does not exceed 170°C and there is no disassembly, no rupture and no fire during the test and within six hours after this test.	电池外表温度小于 170°C，在测试中及之后 6 小时内无解体、无破裂、无起火。测试数据见表格 T.6 External temperature of cells is less than 170°C, also no disassembly, no rupture and no fire during the test and within six hours after the test. Test data see table T.6	
38.3.4.7	Test T.7: 过度充电 Overcharge		N/A
	在室温下，以 2 倍的制造商宣称的最大持续充电电流对样品充电，测试时间为 24 小时。测试的最小电压如下： (a) 如果制造商宣称的充电电压不超过 18V，本测试的最小充电电压应是制造商宣称的最大充电电压的两倍或者是 22V 之中的较小者； (b) 如果制造商宣称的充电电压超过 18V，本测试的最小充电电压应该是制造商宣称的最大充电电压的 1.2 倍； The charge current shall be twice the manufacturer's recommended maximum continuous charge current. Tests are to be conducted at ambient temperature. The duration of the test shall be 24 hours. The minimum voltage of the test shall be as follows: (a) When the manufacturer's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22V; (b) When the manufacturer's recommended charge voltage is more than 18V, the minimum voltage of the test shall be 1.2 times the maximum charge voltage.		
	要求充电电池组在试验过程中和试验后 7 天内无解体、无起火。 There is no disassembly and no fire during the test and within seven days after the test.	在测试中和测试完成后 7 天内无解体、无起火。测试数据见表格 T.7 No disassembly and no fire during the test and within seven days after the test. Test data see table T.7	
38.3.4.8	Test T.8: 强制放电 Forced discharge		P
	每个电池应在环境温度下与 12V 直流电源上进行强制放电,此直流电源串联在起始电流等于制造商给定的最大放电电流条件下强制放电。 Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12V D.C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer.		

	将适当大小和额定值的电阻负荷与试验电池串联，计算得出给定的放电电流。对每个电池进行强制放电，放电时间（小时）应等于其额定容量除以初始试验电流（安培）。 The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell shall be forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in ampere).		
	要求原电池或充电电池在试验过程中和试验后 7 天内无解体、无起火。 There is no disassembly and no fire during the test and within seven days after the test.	电池在测试中和测试完成后 7 天内无解体、无起火。测试数据见表格 T.8 Cells have no disassembly and no fire during the test and within seven days after the test. Test data see table T.8	

VI、测试数据 Test Data

表格 T.1 高度模拟 Table T.1 Altitude simulation

样品状态 The state of samples	编号 No.	试验前 Pre-test		试验后 After test		质量损失 Mass loss (%)	电压比 Voltage ratio (%)	测试结果 Test result
		质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
在第一次循环完全充电状态 At first cycle, in fully charged states	C01	166.328	4.178	166.323	4.178	0.003	100.000	P
	C02	167.229	4.183	167.229	4.183	0.000	100.000	P
	C03	166.082	4.175	166.082	4.175	0.000	100.000	P
	C04	167.174	4.176	167.170	4.176	0.002	100.000	P
	C05	166.544	4.174	166.544	4.174	0.000	100.000	P
在 25 次循环结束后完全充电状态 After 25 cycles ending in fully charged states	C06	165.635	4.179	165.635	4.179	0.000	100.000	P
	C07	168.021	4.185	168.021	4.185	0.000	100.000	P
	C08	166.627	4.176	166.627	4.176	0.000	100.000	P
	C09	167.284	4.188	167.284	4.188	0.000	100.000	P
	C10	166.700	4.179	166.700	4.179	0.000	100.000	P

注释 Notes :

测试后，样品无渗漏、无排气、无解体、无破裂和无起火，电压比不小于 90%。After the test, there is no leakage, no venting, no disassembly, no rupture and no fire. And voltage ratio is not less than 90%.

表格 T.2 温度试验 Table T.2 Thermal test

样品状态 The state of samples	编号 No.	试验前 Pre-test		试验后 After test		质量损失 Mass loss (%)	电压比 Voltage ratio (%)	测试结果 Test result
		质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
在第一次循环完全充电状态 At first cycle, in fully charged states	C01	166.323	4.178	166.302	4.171	0.013	99.832	P
	C02	167.229	4.183	167.215	4.176	0.008	99.833	P
	C03	166.082	4.175	166.066	4.170	0.010	99.880	P
	C04	167.170	4.176	167.152	4.170	0.011	99.856	P
	C05	166.544	4.174	166.528	4.171	0.010	99.928	P
在 25 次循环结束后完全充电状态 After 25 cycles ending in fully charged states	C06	165.635	4.179	165.613	4.173	0.013	99.856	P
	C07	168.021	4.185	168.006	4.177	0.009	99.809	P
	C08	166.627	4.176	166.609	4.170	0.011	99.856	P
	C09	167.284	4.188	167.268	4.181	0.010	99.833	P
	C10	166.700	4.179	166.685	4.172	0.009	99.832	P

注释 Notes :

测试后，样品无渗漏、无排气、无解体、无破裂和无起火，电压比不小于 90%。After the test, there is no leakage, no venting, no disassembly, no rupture and no fire. And voltage ratio is not less than 90%.

表格 T.3 振动 Table T.3 Vibration

样品状态 The state of samples	编号 No.	试验前 Pre-test		试验后 After test		质量损失 Mass loss (%)	电压比 Voltage ratio (%)	测试结果 Test result
		质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
在第一次循环完全充电状态 At first cycle, in fully charged states	C01	166.302	4.171	166.302	4.170	0.000	99.976	P
	C02	167.215	4.176	167.215	4.176	0.000	100.000	P
	C03	166.066	4.170	166.066	4.170	0.000	100.000	P
	C04	167.152	4.170	167.152	4.170	0.000	100.000	P
	C05	166.528	4.171	166.528	4.171	0.000	100.000	P
在 25 次循环结束后完全充电状态 After 25 cycles ending in fully charged states	C06	165.613	4.173	165.613	4.172	0.000	99.976	P
	C07	168.006	4.177	168.006	4.177	0.000	100.000	P
	C08	166.609	4.170	166.609	4.170	0.000	100.000	P
	C09	167.268	4.181	167.268	4.181	0.000	100.000	P
	C10	166.685	4.172	166.685	4.172	0.000	100.000	P

注释 Notes :

测试后，样品无渗漏、无排气、无解体、无破裂和无起火，电压比不小于 90%。After the test, there is no leakage, no venting, no disassembly, no rupture and no fire. And voltage ratio is not less than 90%.

表格 T.4 冲击 Table T.4 Shock

样品状态 The state of samples	编号 No.	试验前 Pre-test		试验后 After test		质量损失 Mass loss (%)	电压比 Voltage ratio (%)	测试结果 Test result
		质量 Mass (g)	电压 Voltage (V)	质量 Mass (g)	电压 Voltage (V)			
在第一次循环完全充电状态 At first cycle, in fully charged states	C01	166.302	4.170	166.302	4.170	0.000	100.000	P
	C02	167.215	4.176	167.215	4.175	0.000	99.976	P
	C03	166.066	4.170	166.066	4.170	0.000	100.000	P
	C04	167.152	4.170	167.152	4.170	0.000	100.000	P
	C05	166.528	4.171	166.528	4.171	0.000	100.000	P
在 25 次循环结束后完全充电状态 After 25 cycles ending in fully charged states	C06	165.613	4.172	165.613	4.172	0.000	100.000	P
	C07	168.006	4.177	168.006	4.177	0.000	100.000	P
	C08	166.609	4.170	166.609	4.170	0.000	100.000	P
	C09	167.268	4.181	167.268	4.181	0.000	100.000	P
	C10	166.685	4.172	166.685	4.172	0.000	100.000	P

注释 Notes :

测试后，样品无渗漏、无排气、无解体、无破裂和无起火，电压比不小于 90%。After the test, there is no leakage, no venting, no disassembly, no rupture and no fire. And voltage ratio is not less than 90%.

表格 T.5 外部短路 Table T.5 External short circuit

样品状态 The state of samples	编号 No.	样品表面最高温度 Max. External Temperature (℃)	测试结果 Test result
在第一次循环完全充电状态 At first cycle, in fully charged states	C01	111.7	P
	C02	112.3	P
	C03	110.8	P
	C04	111.3	P
	C05	112.6	P
在 25 次循环结束后完全充电状态 After 25 cycles ending in fully charged states	C06	113.4	P
	C07	110.9	P
	C08	113.3	P
	C09	112.6	P
	C10	113.4	P

注释 Notes :

测试样品表面温度不超过 170℃，测试中与测试后 6 小时内无解体、无破裂、无起火。Test sample external temperature does not exceed 170℃ and there is no disassembly, no rupture and no fire during the test and within six hours after the test.

表格 T.6 □撞击 ☒挤压 Table T.6 □Impact ☒Crush

样品状态 The state of samples	编号 No.	样品表面最高温度 Max. External Temperature (℃)	测试结果 Test result
在第一次循环完全充电状态 At first cycle, in fully charged states	C11	23.4	P
	C12	23.2	P
	C13	23.6	P
	C14	23.9	P
	C15	23.5	P
在 25 次循环结束后完全充电状态 After 25 cycles ending in fully charged states	C16	23.4	P
	C17	23.6	P
	C18	23.8	P
	C19	23.2	P
	C20	23.7	P

注释 Notes :

测试样品表面温度不超过 170℃，测试中与测试后 6 小时内无解体、无破裂、无起火。Test sample external temperature does not exceed 170℃ and there is no disassembly, no rupture and no fire during the test and within six hours after the test.

表格 T.7 过度充电 Table T.7 Overcharge

样品状态 The state of samples	编号 No.	测试结果 Test result
不适用 N/A	不适用 N/A	--
Notes 注释: 样品在测试中和测试后 7 天内无解体、无起火。There is no disassembly and no fire during the test and within seven days after the test.		

表格 T.8 强制放电 Table T.8 Forced discharge

样品状态 The state of samples	编号 No.	测试结果 Test result
At first cycle, in fully discharged states 在第一次循环完全放电状态	C21	P
	C22	P
	C23	P
	C24	P
	C25	P
	C26	P
	C27	P
	C28	P
	C29	P
	C30	P
After 25 cycles ending in fully discharged states 在 25 次循环结束后完全放电状态	C31	P
	C32	P
	C33	P
	C34	P
	C35	P
	C36	P
	C37	P
	C38	P
	C39	P
	C40	P
Notes 注释: 样品在测试中和测试后 7 天内无解体、无起火。There is no disassembly and no fire during the test and within seven days after the test.		

VII、样品图片 Sample Picture

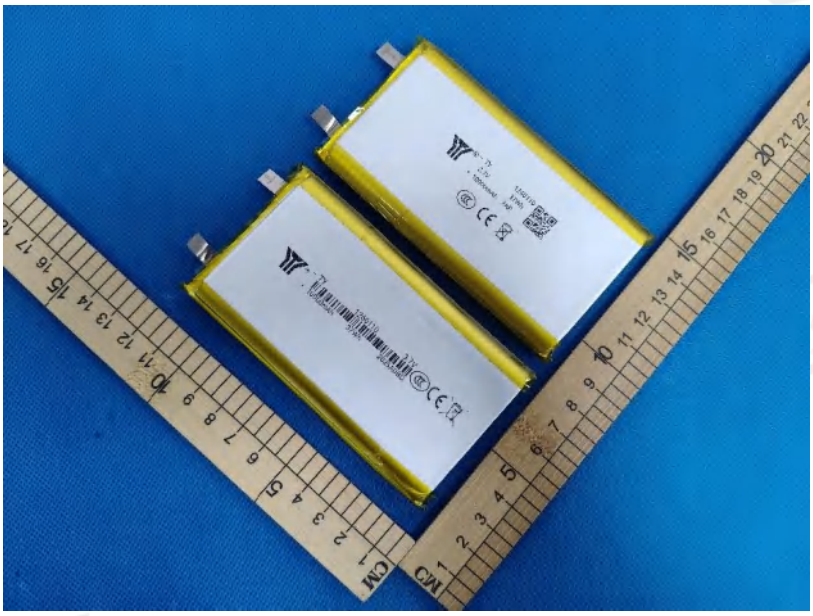


Fig. 1 - 电芯前视图 Front view of cell

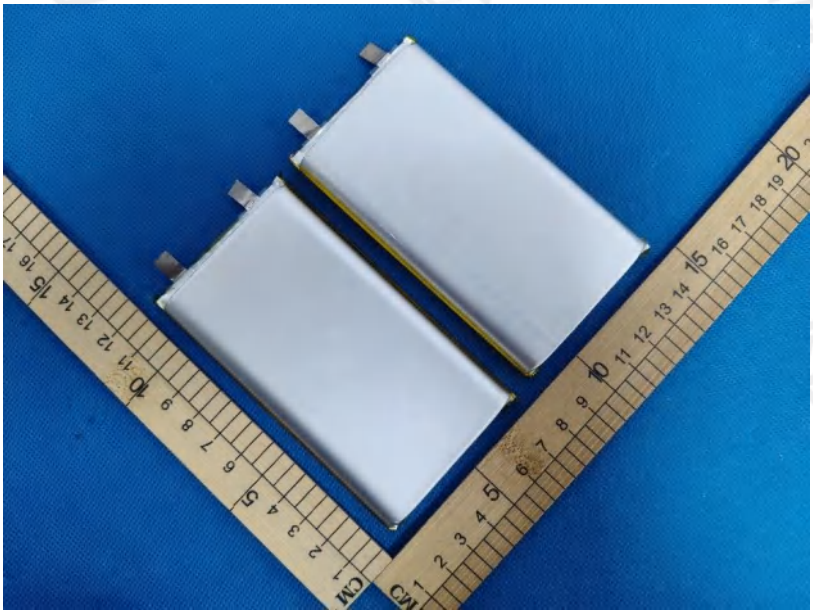


Fig. 2 - 电芯组后视图 Back view of cell

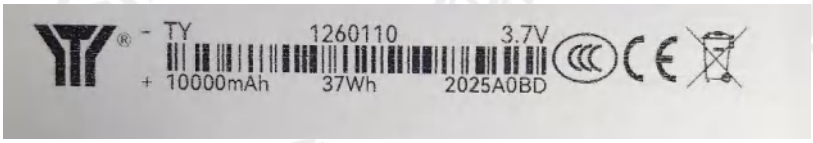


Fig. 3 - 标签视图 Label view

声明

Statement

1、本报告无批准人、审核人及检测人签名和本单位检测专用章无效。

This report is invalid without the signature of the approver, reviewer and tester and the special seal for testing of Shenzhen Element Testing Co., Ltd.

2、本报告涂改和删除无效。

This report is invalid if is blotted out and deleted.

3、对检测报告若有异议，应于收到报告之日起十五天内向检测单位提出。

Objections to the test report must be submitted to Shenzhen Element Testing Co., Ltd. within 15 days.

4、本报告仅对本次客户所送测试样品有效。

This report is only valid for the test samples delivered by this customer.

5、未经深圳元素检测有限公司书面同意，不得部分地复制本报告

Nobody is allowed to photocopy or partly photocopy this test report without written permission of Shenzhen Element Testing Co., Ltd.

6、客户必须如实提供样品及资料，否则本单位不承担任何相关责任。

Customers must truthfully provide samples and data, otherwise we does not assume any relevant responsibilities.

--测试报告结束--

--End of test report--

锂电池/钠离子电池 UN38.3 试验概要 Test Summary

项目编号：SEKSZ202512172745

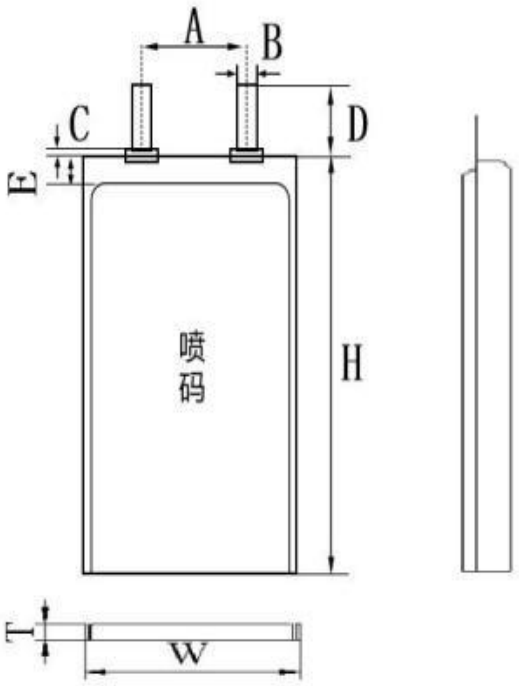
单位信息 Company Information	
委托单位 Consignor	赣州拓远新能源有限公司/Ganzhou Tuoyuan New Energy Co., Ltd. 江西省赣州市信丰县迎宾大道 5G 科技产业园北区 7、8 号厂房/Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou, Jiangxi, China 电话/Tel: +86-13418874839 邮箱/Mail: eva_kangmin@126.com 网址/Website: www.topfar-battery.com
生产单位 Manufacturer	赣州拓远新能源有限公司/Ganzhou Tuoyuan New Energy Co., Ltd. 江西省赣州市信丰县迎宾大道 5G 科技产业园北区 7、8 号厂房/Building No.8, No.7, 5G Technology North Park, Xinfeng High-tech Industrial Park, Ganzhou, Jiangxi, China 电话/Tel: +86-13418874839 邮箱/Mail: eva_kangmin@126.com 网址/Website: www.topfar-battery.com
测试单位 Test Lab	深圳市元素检测有限公司/ Shenzhen Element Testing Co., Ltd. 深圳市龙岗区坪地街道坪西社区龙岭北路 76 号 2 号厂房 401、4 号厂房 101 邮编 518117/101 of Plant 4, & 401 of Plant 2, No.76, Longling North Road, Pingxi, Pingdi Subdistrict, Longgang District, Shenzhen, Guangdong, China/518117 电话/Tel: +86-755-28506411 邮箱/Mail: service@element-testing.com 网址/Website: www.element-testing.com

电池信息 Battery Information			
名称 Name	聚合物锂离子电池 Polymer Li-ion Battery	电池/电芯类别 Battery/Cell Classification	锂离子电芯 Li-ion Cell
型号 Type	1260110	商标 Trademark	
额定电压 Normal Voltage	3.7V	额定容量 Rated Capacity	10000mAh
额定能量 Watt-hour rating	37Wh	外观/Appearance	银色近长方体 Approximate Silver Cuboid
质量/Mass	168.021g	锂含量/Li Content	不适用 N/A

测试信息 Test Information					
测试报告编号 Test Report Number	ELE2511B02402		测试报告签发日期 Date of Test Report	2025-12-08	
测试标准 Edition of UN Manual of Tests and Criteria Used	联合国《试验和标准手册》（第 8 版）38.3 节 UN "Manual of Tests and Criteria" ST/SG/AC.10/11/Rev.8/Subsection 38.3				
T.1：高度模拟 Altitude Simulation	通过 Pass	T.2：温度试验 Thermal Test	通过 Pass	T.3：振动 Vibration	通过 Pass
T.4：冲击 Shock	通过 Pass	T.5：外部短路 External Short Circuit	通过 Pass	T.6：撞击/挤压 Impact/Crush	通过 Pass
T.7：过度充电 Overcharge	不适用 N/A	T.8：强制放电 Forced Discharge	通过 Pass	/	
UN38.3.3.1(f)或/or UN38.3.3.2(d)	不适用 N/A		UN38.3.3.1(g)或/or UN38.3.3.2(e)	不适用 N/A	
备注 Note	/				
签名 Signatory 职务 Title	检验员		签发日期 Issued Date	2025-12-17	

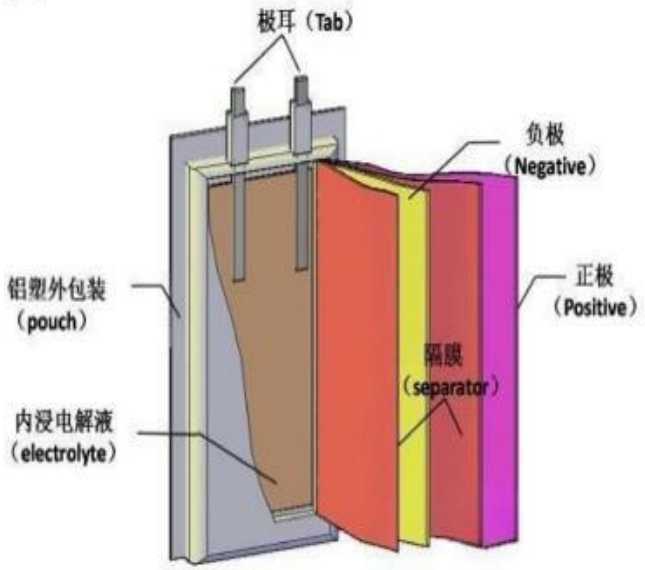
Cell Model 电芯型号	1260110
Capacity 容量	10000mAh

1 Initial Dimension 初始尺寸:

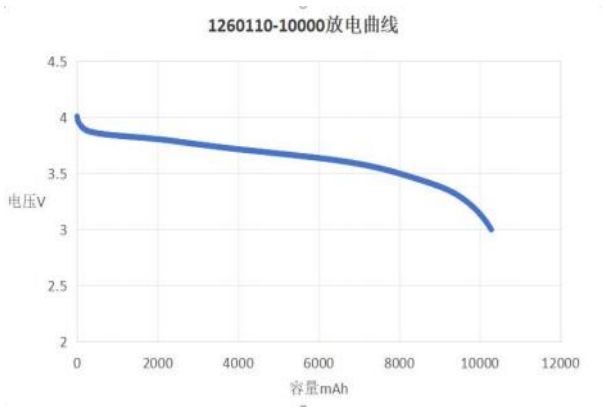


Items 项目	Dimension 尺寸	Description 描述
T	12.00mm Max	Thickness 厚度（不含胶纸）
W	60.20mm Max	Width 宽度（单折边）
H	110.5mm Max	Height 电芯高度
A	35.0±2.0mm	Tab distance 极耳中心距
B	6.0±0.2mm	Tab width 极耳宽度（铜镀镍）
C	0.2~2.5mm	Sealant Length 极耳胶外露尺寸
D	10±2.0mm	裁极耳尺寸（含极耳胶）
E	3.0±0.5mm	Top sealing length 顶边宽度

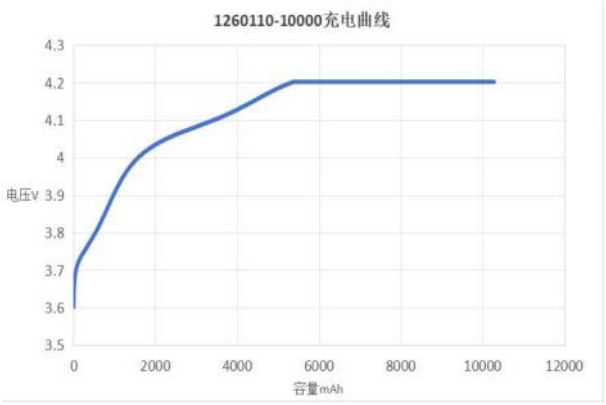
2 Section drawing 剖面图:



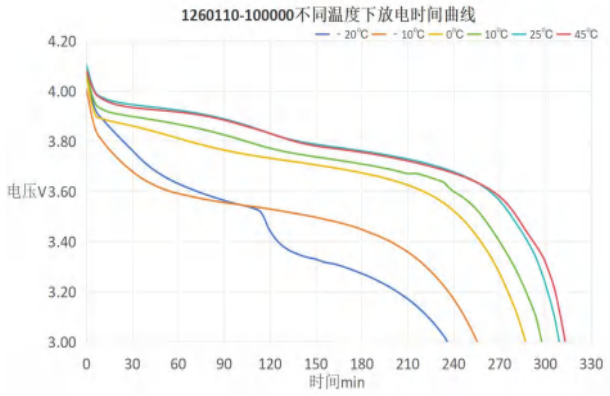
Discharge characteristics
放电特性

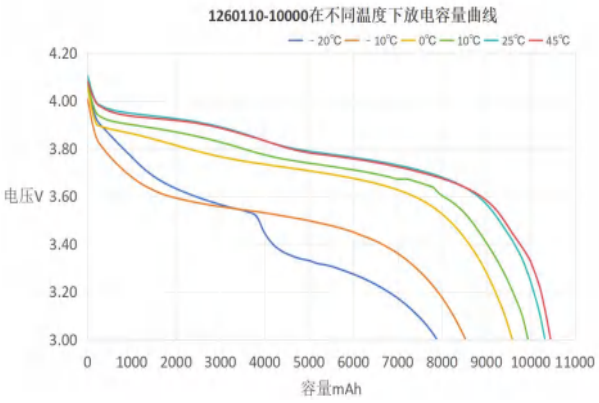


charge characteristics
充电特性



Discharge characteristics at different temperatures
不同温度放电特性





放电前后内阻情况						
温度	-20℃	-10℃	0℃	10℃	25℃	45℃
测试前	21.89	22.13	21.60	22.52	21.61	21.19
测试后	22.00	22.35	21.77	22.64	21.79	21.70

赣州拓远新能源有限公司 8607220929107