

## P/N: 435-0015-03

### Copyright

© 2021, FLIR Systems, Inc.

All rights reserved worldwide. Names and marks appearing herein are either registered trademarks or trademarks of FLIR Systems and/or its subsidiaries. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners.

### Document identity

Publ. No.: 435-0015-03

Commit: 73340

Language:

Modified: 2021-01-28

Formatted: 2021-01-28

### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

### Disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply. Products described herein may be subject to US Export Regulations. Please refer to [exportquestions@flir.com](mailto:exportquestions@flir.com) with any questions.



### Key features

#### VividIR Image Processing

- The most advanced image resolution enhancement detects the thermal details you need to find the problems fast.
- FLIR MSX embosses visible edges from the 1440 × 1080 HD camera onto the thermal imagery to create a sharper, easier to understand image.

#### OneFit Connector

- Adjust the length of the connector up to an additional 4 mm to fit your phone's protective case.

### Imaging and optical data

NETD	100 mK
Field of view	50° × 38°
Minimum focus distance	<ul style="list-style-type: none"> <li>• Thermal: 0.15 m (0.49 ft.)</li> <li>• MSX: 0.3 m (0.98 ft.)</li> </ul>
Spatial resolution (IFOV)	11.6 mrad/pixel
F-number	1.1
Image frequency	8.7 Hz
Focus	Focus free

### Detector data

Focal Plane Array	Uncooled microbolometer
Spectral range	8–14 μm
Detector pitch	17 μm
IR sensor size	80 × 60

### Measurement

Object temperature range	–20°C to +120°C (–4°F to +248°F)
Accuracy	±3°C (±5.4°F) or 5%, typical percent of the difference between ambient and scene temperature. Applicable 60 s after start-up when the unit is within +15 °C to +35°C (+59°F to +95°F) and the scene is within +5°C to +120°C (+41°F to +248°F)



# FLIR ONE PRO LT, Android Micro-USB

P/N: 435-0015-03

© 2021, FLIR Systems, Inc.

#435-0015-03; r. 73340;

<b>Set-up</b>	
Set-up commands	Local adaptation of units, language, date, and time formats
Languages	Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Simpl. Chinese, Spanish, Swedish, Trad. Chinese, Turkish.  Dependent on the language set in the mobile phone.
<b>Lamp</b>	
Lamp	Uses the flashlight of the mobile phone.
<b>Storage of images</b>	
Storage of images	Yes, in the gallery of the mobile phone.
Image file format	<ul style="list-style-type: none"><li>• Standard JPEG</li><li>• 16-bit measurement data included</li></ul>
Video file format	MPEG-4 (MP4)
<b>Digital camera</b>	
Digital camera	1440 × 1080 pixels
Digital camera, focus	Fixed focus 15 cm – infinity
<b>Data communication interfaces</b>	
USB, connector type	Micro USB
USB, standard	USB 2.0
<b>Power system</b>	
Battery type	Rechargeable Li-ion polymer battery
Battery voltage	3.7 V
Battery operating time	1 h
Charging system	Female USB-C (5V / 1A)
Charging time	40 min.
Power management	Automatic shut-down
<b>Environmental data</b>	
Operating temperature range	0°C to +35°C (+32°F to +95°F) Battery charging 0°C to +30°C (+32°F to +86°F)
Storage temperature range	-20°C to +60°C (-4°F to +140°F)
Drop	1.8 m (5.9 ft)
<b>Compliance</b>	
Battery regulations	UL 1642, EN 62133 ED2
EMC	<ul style="list-style-type: none"><li>• EN 61000-6-3</li><li>• EN 61000-6-1</li><li>• FCC 47 CFR Part 15 Class B</li></ul>
Magnetic fields	EN 61000-4-8
RoHS	RoHS 2011/65/EC
WEEE	WEEE 2012/19/EC



# FLIR ONE PRO LT, Android Micro-USB

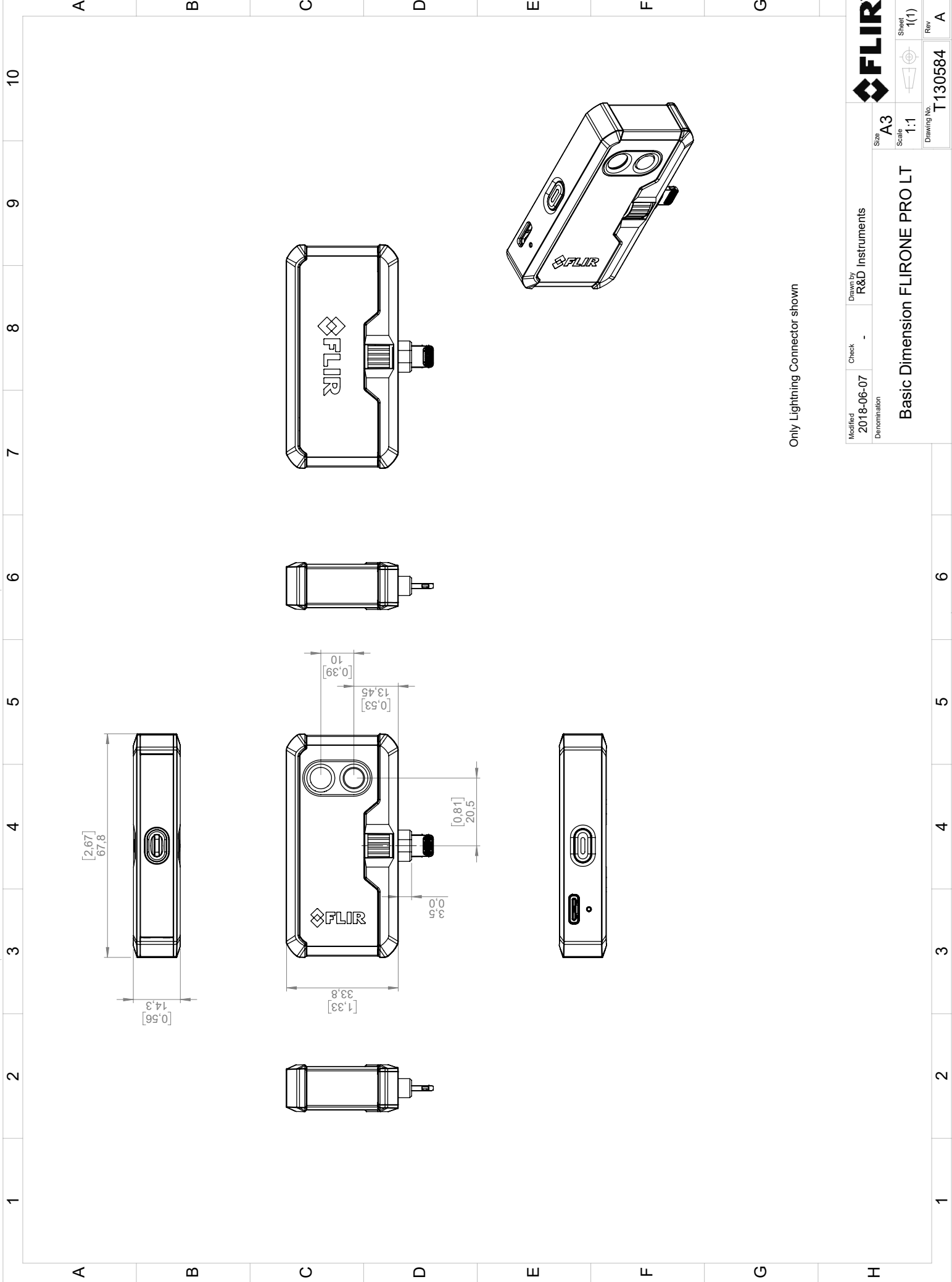
P/N: 435-0015-03

© 2021, FLIR Systems, Inc.

#435-0015-03; r. 73340;

<b>App</b>	
Auto orientation	Yes
Image adjustment (alignment calibration)	Yes
VividIR	Yes
Capture modes	<ul style="list-style-type: none"> <li>• Video</li> <li>• Photo</li> <li>• Time lapse</li> </ul>
Image presentation modes	<ul style="list-style-type: none"> <li>• Infrared image</li> <li>• Visual image</li> <li>• MSX</li> <li>• Gallery</li> </ul>
Measurement analysis	Adjustable spots and areas of interest; <ul style="list-style-type: none"> <li>• 3 spots</li> <li>• 3 rectangular areas (max.)</li> <li>• 3 circular areas (max.)</li> </ul> Resolution 0.1°C / 0.1°F
Emissivity correction	Yes; <ul style="list-style-type: none"> <li>• matte</li> <li>• semi-matte</li> <li>• semi-glossy</li> <li>• glossy</li> </ul>
Measurements correction	<ul style="list-style-type: none"> <li>• Emissivity</li> <li>• Reflected apparent temperature +22°C (+72° F)</li> </ul>
Color palettes	<ul style="list-style-type: none"> <li>• Iron</li> <li>• Rainbow</li> <li>• Rainbow HC</li> <li>• Gray</li> <li>• Arctic</li> <li>• Lava</li> <li>• Wheel</li> <li>• Hottest</li> <li>• Coldest</li> </ul>
Camera software update	Yes
Battery indicator	0-100%
<b>Physical data</b>	
Weight (incl. Battery)	36.5 g (1.3 oz)
Size (L x W x H)	68 x 34 x 14 mm (2.7 x 1.3 x 0.6 in.)
Housing material	<ul style="list-style-type: none"> <li>• PC and ABS, partially covered with TPE</li> <li>• Aluminum</li> </ul>
Color	Black and gray
<b>Shipping information</b>	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none"> <li>• Infrared camera</li> <li>• USB cable</li> <li>• Printed documentation</li> <li>• Pouch</li> </ul>
Packaging, weight	0.31 kg (0.68 lb.)
Packaging, size	141 x 102 x 67 mm (5.6 x 4.0 x 2.6 in.)
EAN-13	7332558015735
UPC-12	845188017712
Country of origin	Estonia

© 2016, FLIR Systems, Inc. All rights reserved worldwide. No part of this drawing may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from FLIR Systems, Inc. Specifications subject to change without further notice. Dimensional data is based on nominal values. Products may be subject to regional market considerations. License procedures may apply. Product may be subject to US Export Regulations. Please refer to exportrequest@flir.com with any questions. Diversion contrary to US law is prohibited.



Only Lightning Connector shown

Modified 2018-06-07	Check -	Drawn by R&D Instruments	FLIR
Denomination Basic Dimension FLIRONE PRO LT		Size A3	Sheet 1(1)
		Scale 1:1	Rev A
		Drawing No. T130584	



The World's Sixth Sense™

March 22, 2018 Täby, Sweden

AQ320287

## CE Declaration of Conformity – EU Declaration of Conformity

Product: FLIR One -series

Name and address of the manufacturer:

FLIR Systems AB

PO Box 7376

SE-187 15 Täby, Sweden

This declaration of conformity is issued under the sole responsibility of the manufacturer.

The object of the declaration: FLIR One -series (FLIR part numbers 435-00xx-xx)

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

### Directives:

Directive: 2011/65/EU

RoHS

Directive 2014/30/EU

Electromagnetic Compability

### Standards:

Emission: EN 61000-3-2:2014

EMC Limits for harmonic current emissions

EN 61000-3-3:2013

EMC Limitation of voltage changes

EN 55032:2012

EMC of multimedia equipment - Emission requirements

Immunity: EN 55024:2010

Information Tech Equipment Immunity characteristics

**FLIR Systems AB**


Quality Assurance

Lea Dabiri

Quality Manager

# MSDS Report

<b>Prepared For:</b>	LIFUN TECHNOLOGY CO.,LTD.
<b>Address:</b>	TANYES Science & Technology Town, No. 128, Pioneer Road, Tianyuan District, Zhuzhou City, Hunan Province, P.R.China
<b>Product Name:</b>	Li-ion Polymer Battery
<b>Model :</b>	602035-02
<b>Nominal Voltage:</b>	3.8V
<b>Rated Capacity:</b>	521mAh, 1.98Wh
<b>Weight:</b>	Approx. 8.8g
<b>Dimension :</b>	6.1mm×21.0mm×36.0mm (T×W×L)
<b>Prepared By :</b>	Shenzhen CCJC Technology Co.,Ltd. 1st Floor, Xinbaoyi Industry and Trade Building B, Houting Community, Shajing Town, Bao'an District, Shenzhen City.Guangdong China
<b>Report No.:</b>	CCJC2020A384101

Written by:	<i>Ting</i>	Approved by:	
Inspected by:	<i>Shiso</i>	Issue date:	2021-01-04

## Material Safety Data Sheet

### Section 1 - Chemical Product and Company Identification

<i>Product Name:</i>	Li-ion Polymer Battery
<i>Product Model:</i>	602035-02
<i>Manufacture:</i>	LIFUN TECHNOLOGY CO.,LTD.
<i>Address:</i>	TANYES Science & Technology Town, No. 128, Pioneer Road, Tianyuan District, Zhuzhou City, Hunan Province, P.R.China
<i>Tel:</i>	+86-731-28163666
<i>Fax:</i>	+86-731-28163777
<i>Emergency Tel:</i>	+86-731-28163666
<i>E-mail:</i>	ycfu@lifuntech.com

### Section 2 - Hazards Identification

<i>Classification of Danger</i>	See section 14.
<i>Primary Route(s) of Exposure</i>	Eye, skin contact, ingestion.
<i>Health Hazard</i>	The batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's risk of rupture, fire, heat, leakage of internal components, with could cause casualty loss. Abuses include but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

### Section 3 – Composition/Information on Ingredients

Chemical Composition	CAS No.	Concentration or concentration ranges (%)
Phosphate(1-), hexafluoro-, lithium	21324-40-3	15-25
Vinylene carbonate	872-36-6	
Carbonic acid, dimethyl ester	616-38-6	
Copper	7440-50-8	3-5

Aluminium	7429-90-5	3-5
Polypropylene	9003-07-0	5-7
Polyhexamethylene adipamide	32131-17-2	
Cobaltate, lithium	12190-79-3	44-52
Graphite	7782-42-5	22-26

Labeling according to EC directives.

No symbol and risk phrase are required.

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply.

## Section 4 - First Aid Measures

<i>Eye</i>	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
<i>Skin</i>	Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.
<i>Inhalation</i>	Remove from exposure and move to fresh air immediately. Use oxygen if available.
<i>Ingestion</i>	Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician.

## Section 5 - Fire Fighting Measures

<i>Characteristics of Hazard</i>	Dusts at sufficient concentrations can form explosive mixtures with air. Combustion generates toxic fumes.
<i>Hazardous Combustion Products</i>	Carbon dioxide.
<i>Fire-extinguishing Methods and Extinguishing Media</i>	For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.
<i>Attention in Fire-extinguishing</i>	Wear self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## Section 6 - Accidental Release Measures

<i>Personal Precautions, protective equipment, and emergency procedures</i>	In case of rupture. Attention! Corrosive material. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Refer to protective measures listed in Sections 7 and 8.
---	---



<i>Environmental Precautions</i>	Prevent product from contaminating soil and from entering sewers or waterways.
<i>Methods and materials for Containment</i>	Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up spills immediately.
<i>Methods and materials for cleaning up</i>	Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose of according to directions in Section 13. Scrub the area with detergent and water; collect all contaminated wash water for proper disposal.

## Section 7 - Handling and Storage

<i>Handling</i>	In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.
<i>Storage</i>	Store in a cool, dry, well-ventilated area away from incompatible substances. Store locked up. Keep out of the reach of children.
<i>Other Precautions</i>	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

## Section 8 - Exposure Controls/Personal Protection

<i>Engineering Controls</i>	Use adequate ventilation to keep airborne concentrations low. If used under conditions that generate particulates, the ACGIH TLV-TWA of 3mg/m <sup>3</sup> respirable fraction (10mg/m <sup>3</sup> total) should be observed.
<i>Personal Protective Equipment</i>	Eye and Face Protection: None required for consumer use. If there is a risk of contact: Tight sealing safety goggles. Face protection shield. Skin and Body Protection: None required for consumer use. If there is a risk of contact: Wear protective gloves and protective clothing. Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

## Section 9 - Physical and Chemical Properties

<i>Physical State</i>	Appearance: Prismatic
	Color: Silver
	Odour: If leaking, smells of medical ether.
<i>Change in condition</i>	
<i>pH</i>	Not applicable as supplied.

<i>Flash Point</i>	Not applicable unless individual components exposed.
<i>Flammability</i>	Not applicable unless individual components exposed.
<i>Relative density:</i>	Not applicable unless individual components exposed.
<i>Solubility (water)</i>	Not applicable unless individual components exposed.
<i>Solubility (other)</i>	Not applicable unless individual components exposed.

### Section 10 - Stability and Reactivity

<i>Chemical Stability</i>	Stable under recommended storage conditions.
<i>Possibility of Hazardous Reactions</i>	None under normal processing.
<i>Conditions to Avoid</i>	Exposure to air or moisture over prolonged periods.
<i>Incompatible materials</i>	Acids, Oxidizing agents, Bases.
<i>Hazardous Decomposition Products</i>	Carbon oxides.

### Section 11 - Toxicological Information

<i>Irritation</i>	In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes and skin.
<i>Sensitization</i>	Not Available.
<i>Reproductive Toxicity</i>	Not Available.
<i>Toxicologically Synergistic Materials</i>	Not Available.

### Section 12 - Ecological Information

<i>General note:</i>	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
<i>Anticipated behavior of a chemical product in environment/possible environmental impact/ ecotoxicity</i>	Not Available.

### Section 13 - Disposal Considerations

<i>Waste Treatment</i>	Recycle or dispose of in accordance with government, state & local regulations.
------------------------	---

<i>Attention for Waste Treatment</i>	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.
--------------------------------------	--

## Section 14 - Transport Information

<i>UN number</i>	UN3480 or UN3481
<i>Proper shipping name</i>	Lithium ion batteries (including lithium ion polymer batteries) or Lithium ion batteries packed with equipment (including lithium ion polymer batteries) or Lithium ion batteries contained in equipment (including lithium ion polymer batteries)
<i>Class or division</i>	9
<i>Marine pollutant (Yes/No)</i>	No
<i>Packing group</i>	N/A
<i>Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises</i>	
<i>ICAO / IATA:</i>	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 IB, or (PI) 966 Section II, or (PI) 967 Section II appropriate of IATA DGR 62 <sup>nd</sup> (2021 aEdition) for transportation.
<i>IMDG CODE:</i>	The batteries are not restricted to IMDG Code 2018 Edition (Amdt39-18) according to special provision 188.
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.	

## Section 15 - Regulatory Information

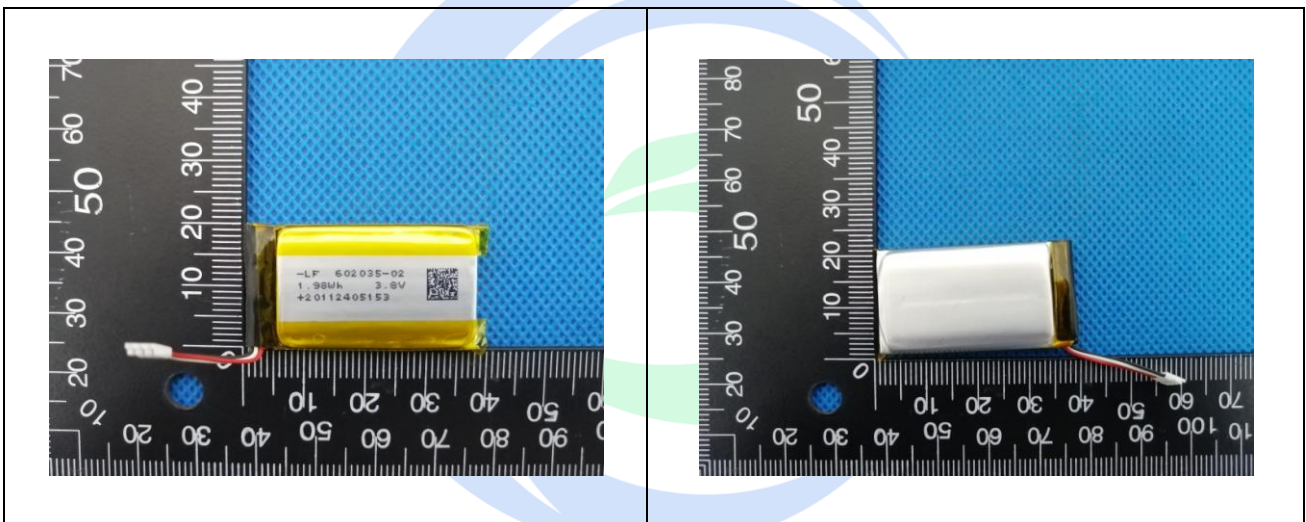
- a) Dangerous Goods Regulations
- b) Recommendations on the Transport of Dangerous Goods-Model Regulations (20th revised edition)
- c) Recommendations on the Transport of Dangerous Goods-Manual of Tests and Criteria
- d) International Air Transport Association (IATA)
- e) International Maritime Dangerous Goods (IMDG Code 2018 Edition Amdt 39-18)
- f) Technical Instructions for the Safe Transport of Dangerous Goods
- g) Classification and code of dangerous goods (GB 6944-2012)
- h) 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
- i) Toxic Substance Control Act (TSCA)
- j) Code of Federal Regulations
- k) In accordance with all Federal, State and local laws

## Section 16 - Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. This material safety data sheet provides guidelines for the safe handling and use of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required.

The data/information contained herein has been reviewed and approved for general release on the basis that this document contains no export controlled information.

Sample photo:





--End of report--

## UN38.3 试验概要

### UN38.3 Test Summary

单位信息 Company information			
委托方 Client	湖南立方新能源科技有限责任公司 LIFUN TECHNOLOGY CO.,LTD		
地址 Address	湖南省株洲市天元区创业大道 128 号天易科技城自主创业园 J 地块 TANYES Science & Technology Town, No. 128, Pioneer Road, Tianyuan District, Zhuzhou City, Hunan Province, P.R.China		
联系方式 Contact information	+86-731-28163666	yfcu@lifuntech.com	www.lifuntech.com
制造商 Manufacturer	湖南立方新能源科技有限责任公司 LIFUN TECHNOLOGY CO.,LTD		
地址 Address	湖南省株洲市天元区创业大道 128 号天易科技城自主创业园 J 地块 TANYES Science & Technology Town, No. 128, Pioneer Road, Tianyuan District, Zhuzhou City, Hunan Province, P.R.China		
联系方式 Contact information	+86-731-28163666	yfcu@lifuntech.com	www.lifuntech.com
生产厂 Factory	湖南立方新能源科技有限责任公司 LIFUN TECHNOLOGY CO.,LTD		
地址 Address	湖南省株洲市天元区创业大道 128 号天易科技城自主创业园 J 地块 TANYES Science & Technology Town, No. 128, Pioneer Road, Tianyuan District, Zhuzhou City, Hunan Province, P.R.China		
联系方式 Contact information	+86-731-28163666	yfcu@lifuntech.com	www.lifuntech.com
测试实验室 Test laboratory	广州邦禾检测技术有限公司 Guangzhou MCM Certification and Testing Co, Ltd		
地址 Address	广州市番禺区市广路钟三路段 13 号之一(农业科技研发基地园内) 1/F, Roed NO.13, Zhongsan Section, Shiguang Raod Panyu District, Guangzhou, Guangdong		
联系方式 Contact information	+86-20-34777662	mcm@mcmtek.com	www.mcmtek.com
电池信息 Battery information			
名称 Name	锂离子聚合物电池 Li-ion Polymer Battery	商标 Brand	/
型号 Model	602035-02	原始测试型号 Original tested model	/
标称电压 Nominal voltage	3.8V	容量 Rated Capacity	521mAh, 1.98Wh
描述 Description	单芯锂离子电池 Single Cell Li-ion Battery	锂含量 Lithium Content	/
质量 Mass	8.8g	外观 Appearance	银色近长方体电池 Silver almost cuboid Battery

测试信息 Test information			
UN38.3 报告编号 UN38.3 report No.	HNFL20170121U01	测试报告日期 Test report date	2017-02-17
测试标准 Test criteria	联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.5/Amend.2 38.3 UNITED NATIONS "Recommendations in the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.5/Amend.2 38.3		
T.1 高度模拟 T.1 Altitude simulation	合格 Pass		
T.2 温度测试 T.2 Thermal test	合格 Pass		
T.3 振动 T.3 Vibration	合格 Pass		
T.4 冲击 T.4 Shock	合格 Pass		
T.5 外部短路 T.5 External short circuit	合格 Pass		
T.6 挤压 T.6 Crush	合格 Pass		
T.7 过度充电 T.7 Overcharge	合格 Pass		
T.8 强制放电 T.8 Forced discharge	合格 Pass		
38.3.3(f)	/		
38.3.3(g)	/		
结论 Conclusion	经测试, 样品符合联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.5/Amend.2 38.3 标准要求。 The sample has passed the test items of UNITED NATIONS "Recommendations in the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.5/Amend.2 38.3.		
备注 Remark	/		
签名 Signature 职务 Title			签发日期 Issued date 2021-01-05 
	技术负责人 Technical director	程鹏	