

Shandong Anodepower Battery Co.,Ltd

TEST REPORT

SCOPE OF WORK

Test Report

REPORT NUMBER

220711002SZN-001

ISSUE DATE

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REVISION DATE

None

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DOCUMENT CONTROL NUMBER

Special Test Report_ A

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Report No.: 220711002SZN-001

TEST REPORT

Applicant	:	Shandong Anodepower Battery Co., Ltd
Address	:	Yanggu Double Innovation Industrial Park, East Industrial Concentration Zone, Yanggu County Economic Development Zone, Liaocheng City, Shandong Province, China
Product Description		
Name of Product	:	Rechargeable Li-ion Battery
Trade Mark	:	-
Model Number	:	ZNL 104450-1S1P
Model differences	:	N/A
Date of Receival	:	11-July-2022
Date of test Conducted	:	11-July-2022 to 9-August-2022
Test		
Test Requested	:	Test according to standards: UL 2054 Issue: 2004/10/29 Ed:2 Rev:2011/09/14 UL Standard for Safety Household and Commercial Batteries
Test Conclusion:	:	The products complied with the requirements listed in <u>Test Requested</u> .
Other information	:	-
General Remark:		
<ul style="list-style-type: none"> This test report is only for evaluation of the specified standard clauses listed in <u>Test Requested</u>. When determine the test result, measurement uncertainty has been considered. <p>Manufacturing site: Same as applicant</p>		

Tested by:



Jason Zhu
Engineer

Approved by:



Joseph Li
Reviewer

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Test Requested:

UL 2054 Issue: 2004/10/29 Ed:2 Rev:2011/09/14 UL Standard for Safety Household and Commercial Batteries		
9	Short-Circuit Test	P
10	Abnormal Charging Test	P
11	Abusive Overcharge Test	P
12	Forced-Discharge Test	N/A
13	Limited Power Source Test	P
13A	Battery Pack Component Temperature Test	P
13B	Battery Pack Surface Temperature Test	N/A
19	250 N Steady Force Test	N/A
20	Mold Stress Relief Test	N/A
21	Drop Impact Test	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)		

Appendix 1: Critical components information					
Component Name	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Rechargeable Li-ion Cell	Shandong Anodepower Battery Co., Ltd.	ZNL 104450	3.7Vd.c., 3000mAh	UL1642	See report 220708005SZN-001
IC (U1, U2)	Semi	CM1002-ZA	Over-charge Threshold Voltage: 4.250V±0.025V@Topt=25°C; Over-discharge Threshold Voltage: 2.800V±0.080V; Tstg : -40°C to 125°C	--	Tested with battery
MOSFET (Q1, Q2)	Shenzhen Sanhe Micro Technology Co., LTD	SHW820 5S	VDS: 20V, VGS: ±10V, ID: 5A@TA=25°C, TJ, TSTG : -55°C to 150°C	--	Tested with battery
PTC	DONGGUAN TLC ELECTRONIC TECHNOLOGY CO LTD	TLC-NSML200	Vmax: 6Vdc Imax : 50A Ihold: 2.0A Itrip: 4.0A	UL 1434	UL E352136
PCB	ShenZhen City JiaWanTongDa Circuit Co Ltd	SXT-30A38	130°C, V-0	UL 796	UL E492187
PCB (Alternative)	Interchangeable	Interchangeable	130°C, V-0	UL 796	UL Approved
Wiring	XIN SHENG TERMINAL MFG LTD	1007	22AWG, 80°C, 300V	UL 758	UL E328303
Wiring (Alternative)	Interchangeable	Interchangeable	22AWG, 80°C, 300V	UL 758	UL Approved
Connector	Xinxiang Xingxing Electronic Factory	XH2.54-2P	PC/ABS, 100V AC/DC, 3A AC/DC, Temperature range: -25°C to 85°C	--	Tested with battery
Remark:					

Appendix 2: Marking

Rechargeable Li-ion Battery
ZNL 104450-1S1P
3.7Vd.c., 3000mAh, 11.1Wh
Red: (+) Black: (-)
CAUTION
Risk of fire and burns.
Do not open, crush, heat above 60°C/140F or incinerate.
Do not short circuit, if bulges severely, discontinue use.
Follow manufacturer's instruction.
Production Date: YYYYMMDD
Manufacturer: Shandong Anodepower Battery Co., Ltd.

Remark:

Above plate will be printed on the surface of the battery.

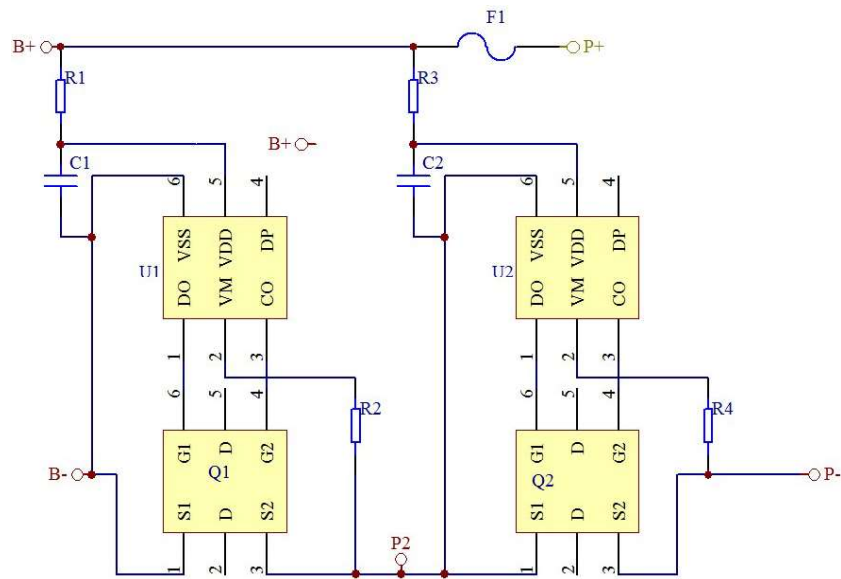
Date code: "YYYYMMDD" represents the date of manufacturing.

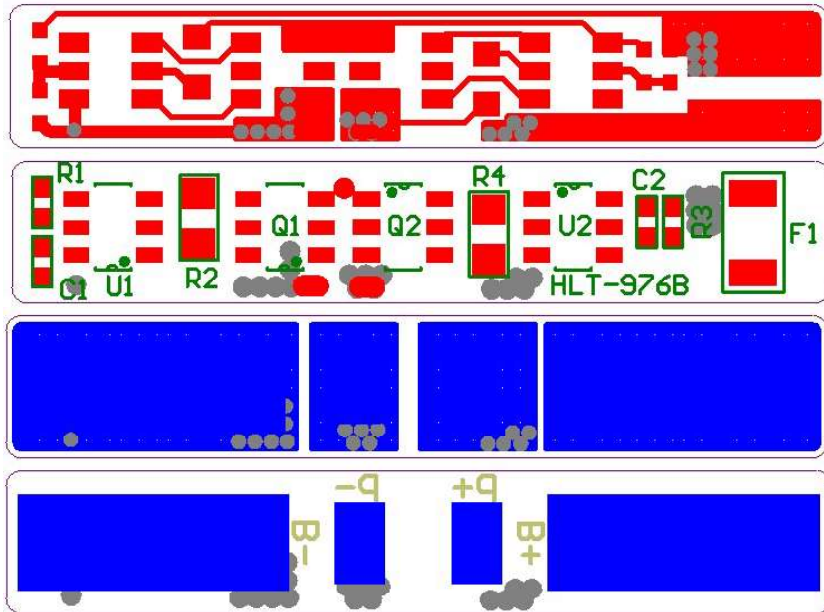
YYYY-Year; MM-Month; DD-Day; For example 20220412 means the manufacture date is Apr. 12, 2022

Appendix 3: Product Specification

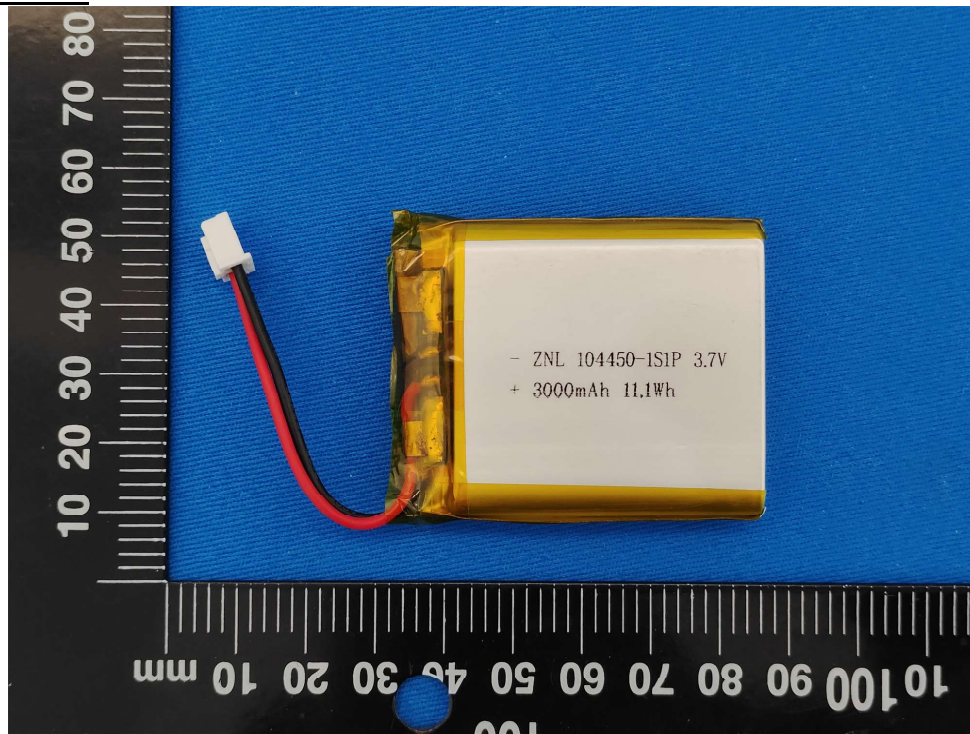
Product	Cell	Battery
Model name	ZNL 104450	ZNL 104450-1S1P
Nominal Capacity (mAh)	3000	3000
Nominal Voltage (V)	3.7	3.7
Normal charging current (mA)	600	600
Normal charging voltage (V)	4.2	4.2
End of charging current (mA)	60	60
Max. charging current (mA)	1500	1500
Upper limit charging voltage (V)	4.25	4.2
Normal discharging current (mA)	600	600
End of discharging voltage (V)	2.75	2.75
Max. discharging current (mA)	1500	1500
Operating temperature range (°C)	Charge:0-60 Discharge:0-60	Charge:10-45 Discharge:0-60

Appendix 4: Circuit diagram and layout

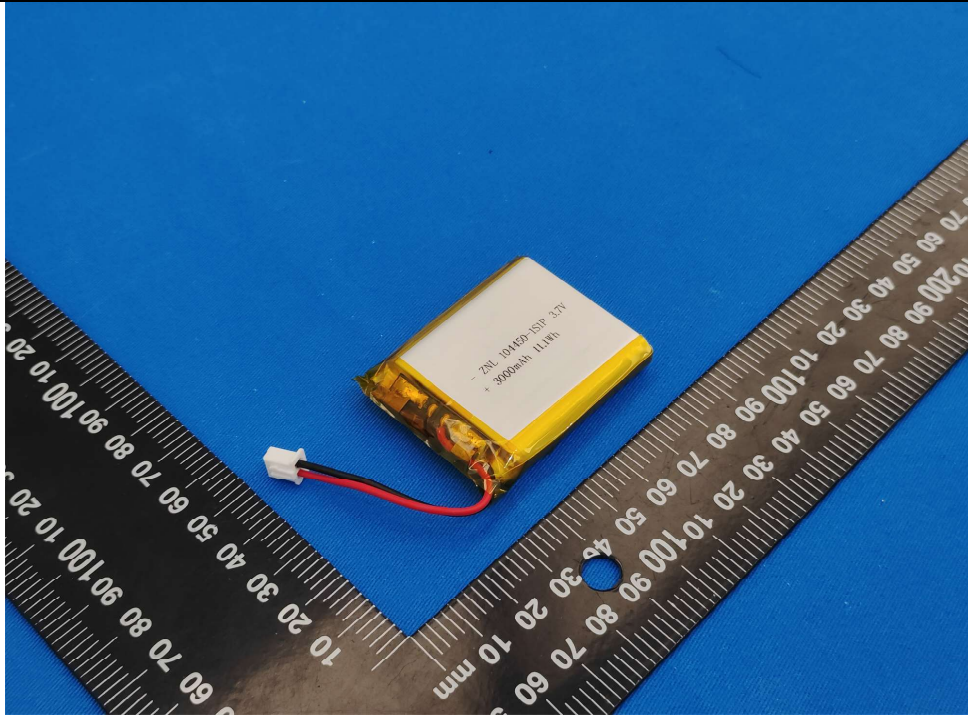




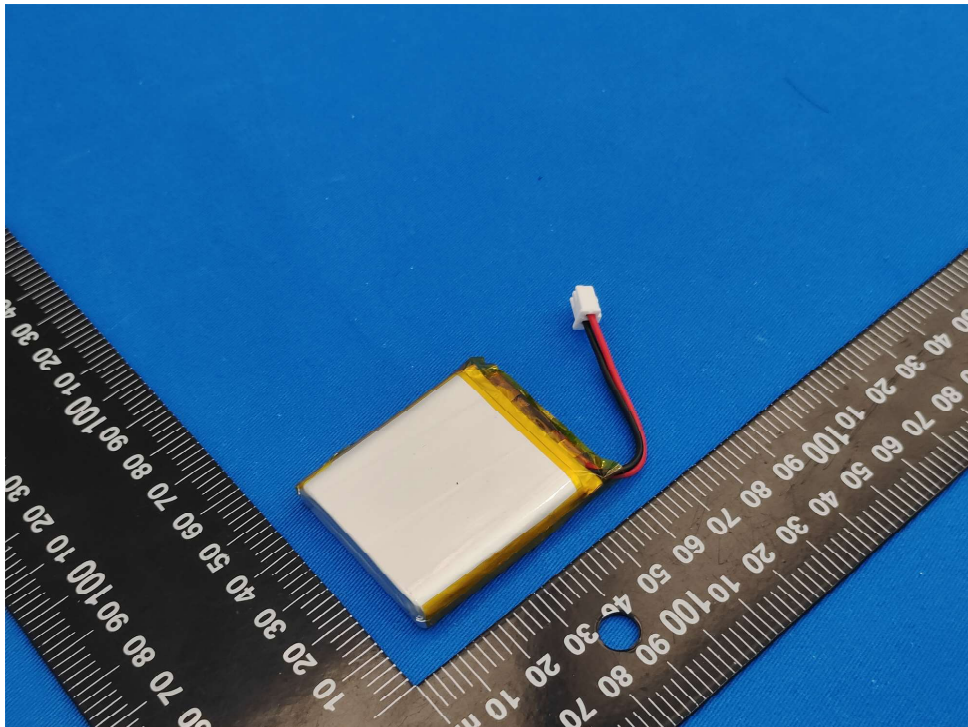
Appendix 5: Photo



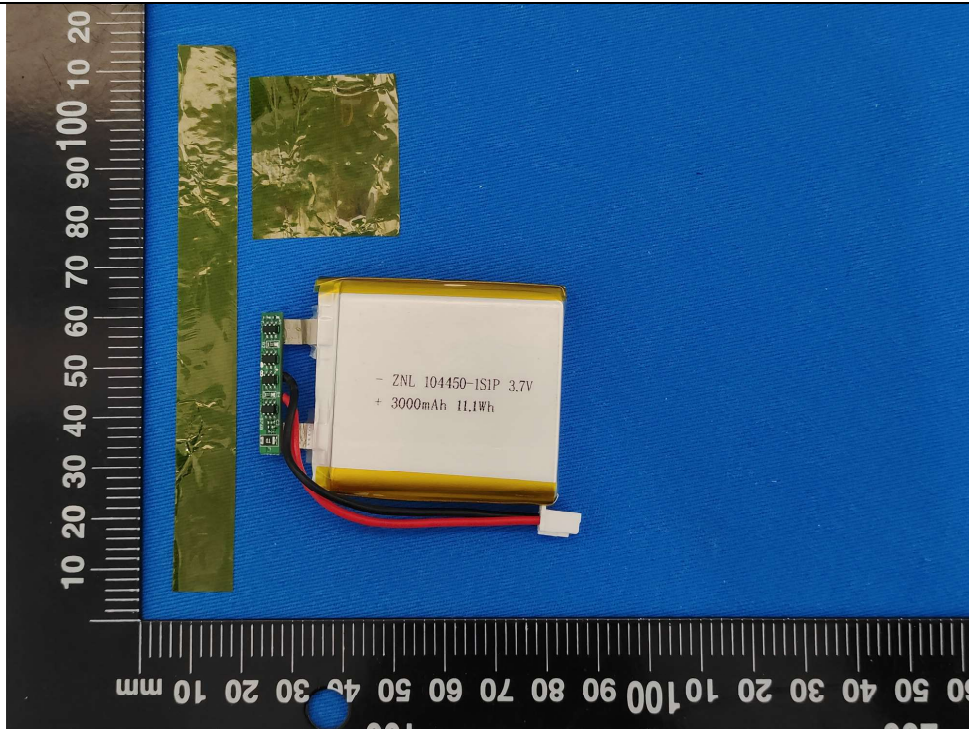
Picture 1 Overall view 1 of Lithium Rechargeable Battery



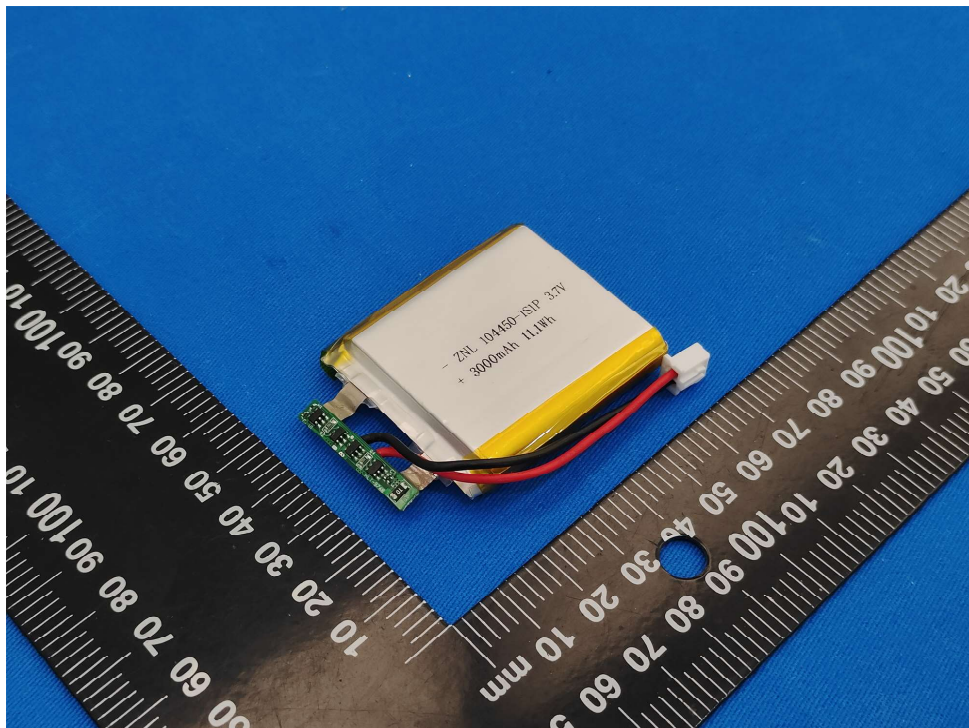
Picture 2 Overall view 2 of Lithium Rechargeable Battery



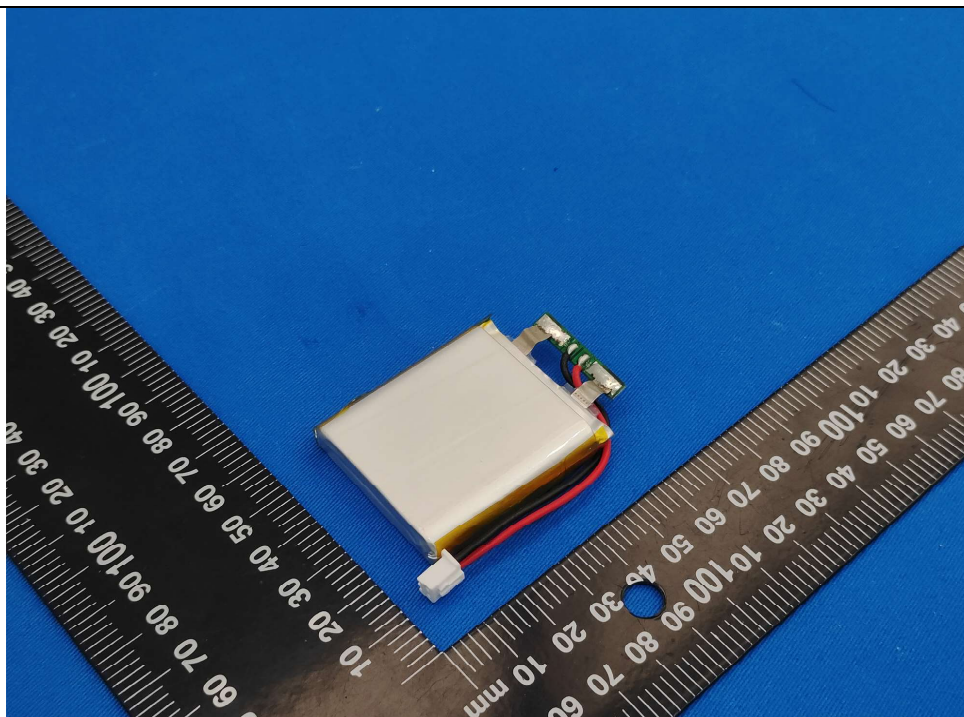
Picture 3 Overall view 3 of Lithium Rechargeable Battery



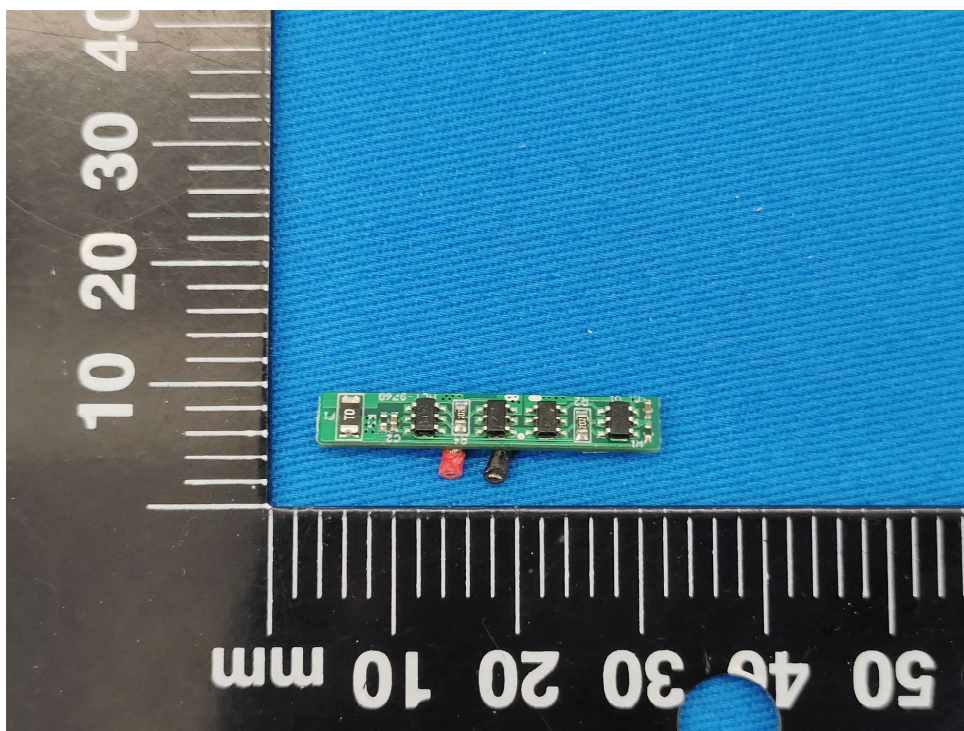
Picture 4 Overall view of Lithium Rechargeable Battery with heat-shrinking tube disassembled



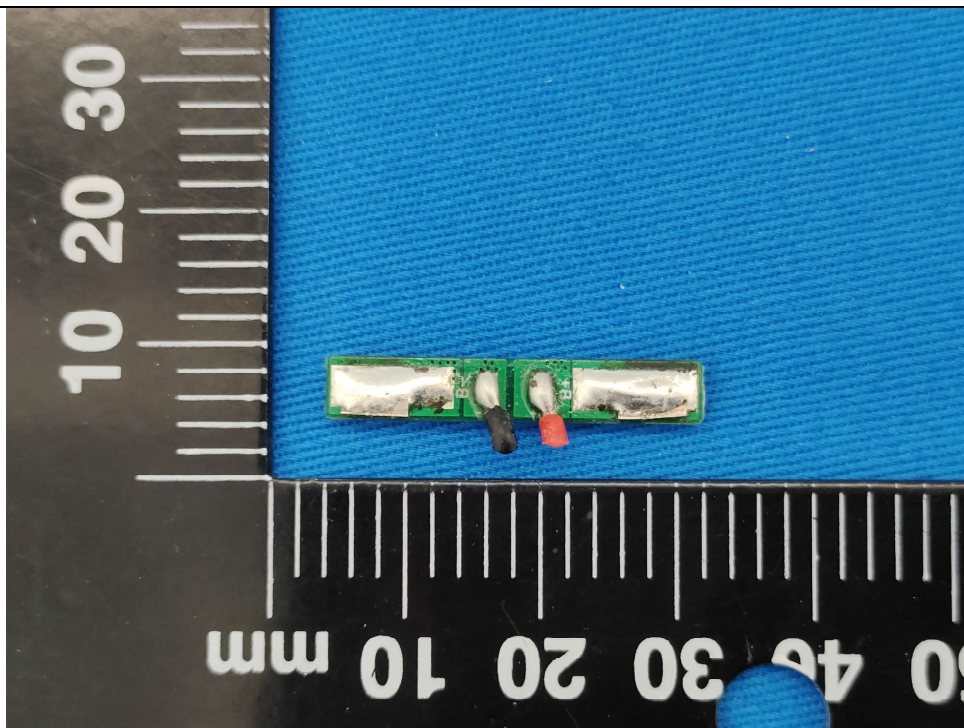
Picture 5 Overall view of the core-pack



Picture 6 View of Cell connection



Picture 7 Top view of PCM



Picture 8 Bottom view of PCM

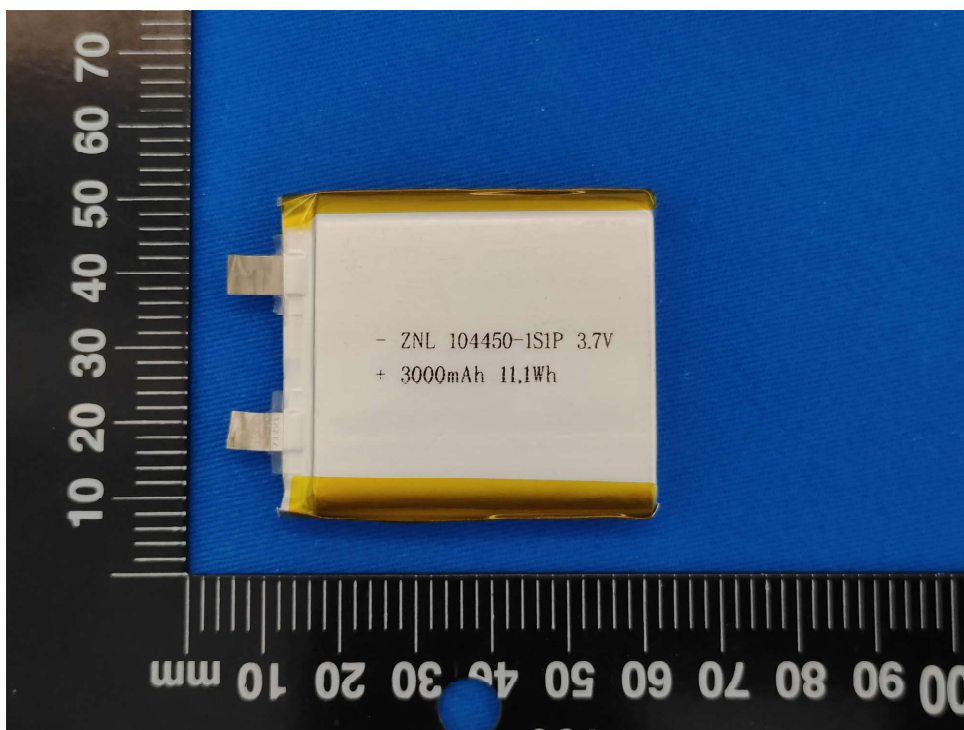


Figure 9 Front view of cell

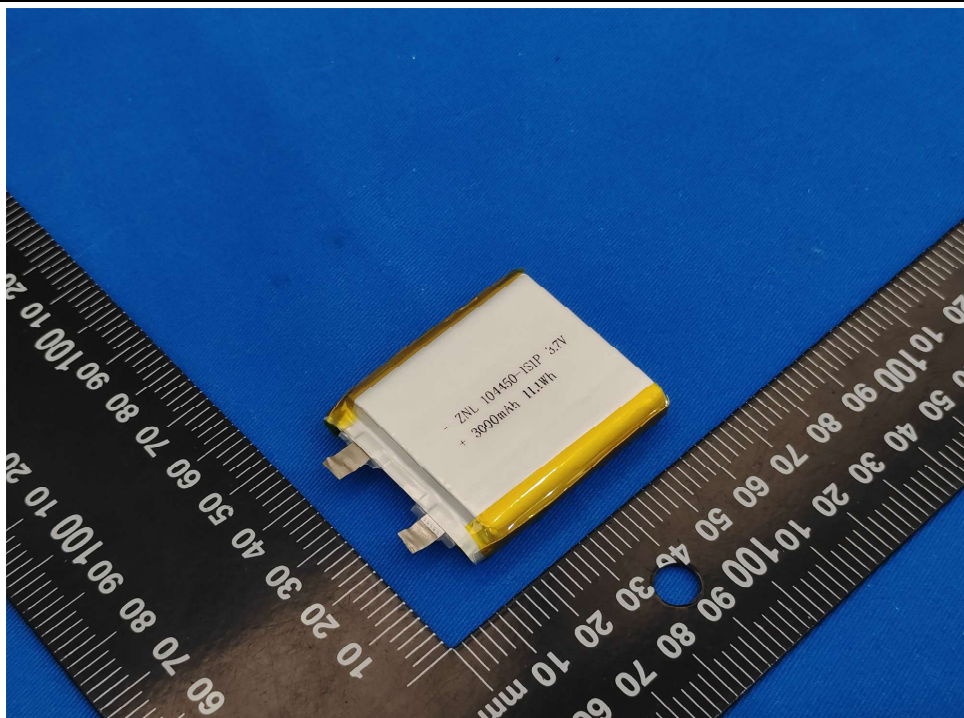


Figure 10 Side view of cell

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