URS PRODUCTS AND TESTING PVT LTD

ULR No. :

DOC No. :
Telephone : +91 9871062220
FAX : -
E-Mail : testing@ursindia.com
BO Code : NA

F-3, Sector - 6, Noida, Gautam Buddha Nagar, Uttar Pradesh, India - 201301

Test REPORT AS PER : IS 16046 : Part 2 (2018)

QR Code/Barcode : 147483CRS

REPORT NO : SC23EPF07530_1

DATE : 27 May, 2023

PART A. PARTICULARS OF SAMPLE SUBMITTED

a) Customer Name & Address	:	JIANGXI DONGTENG LITHIUM CO., LTD. XINHUA INDUSTRIAL COMMUNITY, DAYU COUNTY, GANZOU CITY, JAINGXI PROVINCE, NA, JIANGXI, China - 341500
b) Nature of sample	:	-
c) Grade/Variety/Type/Class Size etc	:	NA
d) Declare values, if any	:	-
e) Batch No. & Date of Manufacture	:	/
f) Quantity	:	43
g) Date of Receipt	:	11 May, 2023
h) BIS Seal	:	Verified by Sample Cell
i) IO's Signature	:	Verified by Sample Cell
j) Any other Information / Expiry Date, If any	:	/
k) Date of Commencement of Testing	:	12 May, 2023
l) Date of Completion of Testing	:	27 May, 2023
m) Section Code	:	23ECAA5N
n) Section Report No.	:	23ECAA5N_1
o) Report Type	:	New
p) Reference Report No.	:	
q) Remarks	:	

Yogesh Jawa
OIC SAMPLE CELL
(Authorized Signatory)
Authorized on: 27 May, 2023 17:14 PM

1. URS PRODUCTS AND TESTING PVT LTD

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PART B. SUPPLEMENTARY INFORMATION

1.	Reference to sampling procedure, wherever applicable.	Not Applicable
2.	Supporting documents for the measurements taken and results derived like graphs, table sketches and or photographs as appropriate to test report, if any.	Yes
3.	Deviation from the test methods as prescribed in relevant ISS/Work instruction, if any.	Not Applicable
3.	NABL Report required ?	Yes

Md. Fakhre Alam
OIC Electrical
(Authorized Signatory)
Authorized on: 27 May, 2023 17:10 PM

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PART C. TEST RESULT

S.No.	Clause No Table No. Sl. No	Parameter - Method of test	Test Description	Min Limit	Max Limit	Unit	Result/ Observation
1	10	Packaging	PACKAGING AND TRANSPORT	-	-	-	Complied
2	9.4	Other information	Storage and disposal instructions Recommended charging instructions	-	-	-	Complied
3	9.3	Caution for ingestion of small cells and batteries	Caution for ingestion of small cells and batteries	-	-	-	This is not a Small Cell
4	9.2	Battery Marking	Batteries marked as specified in IEC 61960, except for coin batteries	-	-	-	EUT is Rechargeable Li-ion Cell
5	9.1	Cell Marking	cell marking	-	-	-	Cells marked as specified in IEC 61960
6	9	Marking	marking	-	-	-	Complied
7	8.2	Small Cell and battery safety information	The Product is Small battery which was tested by injection gauge and observe it can fit within the limits of the ingestion gauge. Therefore, The following warning language is provided on packaging of Box. • Keep small cells and batteries which are considered swallowable out of the reach of children. • Swallowing may lead to burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion. • In case of ingestion of a cell or battery, seek medical assistance promptly.	-	-	-	This is not a Small Cell
8	8.1	General	N/A	-	-	-	Complied
9	8	Information for safety	N/A	-	-	-	Complied
10	7.3	Reasonably foreseeable misuse	Cl.7.3.2, Cl. 7.3.3, Cl. 7.3.6, ,Cl.7.3.8.1,Cl. 7.3.8.2	-	-	-	7.3.1 No fire, no explosion 7.3.3 No fire, No explosion 7.3.4 No fire, No explosion after the test 7.3.5 No fire, No explosion occurred after the test 7.3.7 No fire, No explosion observed after the test
11	7.2	Intended Use	7.2 Intended use 7.2.1 Continuous charging at constant voltage (cells) 7.2.2 Case stress at high ambient temperature (battery)	-	-	-	7.2 Complied 7.2.1 No Fire, No Explosion, No Leakage during and after the test 7.2.2 Considered for battery pack only

12	7.1	Charging procedure for test purposes	Charging procedure for test purposes	-	-	-	Complied
13	7	Specific requirements and tests	SPECIFIC REQUIREMENTS AND TESTS	-	-	-	Complied
14	6	Tyoe Test amd Sample Size	N/A	-	-	-	Complied
15	5.8	Battery Safety Components	N/A	-	-	-	Considered for battery pack only
16	5.7	Quality Plan	Quality plan*	-	-	-	The manufactures provide an ISO 9001 Certificate for reference
17	5.6	Assembly of Cells into batteries	5.6.1 General 5.6.2 Design recommendation 5.6.3 Mechanical protection for cells and components of batteries	-	-	-	Considered for battery pack only
18	5.5	Terminal Contacts	Terminal contacts*	-	-	-	Complied
19	5.4	Temperature, Voltage and Current Management	Temperature, voltage and current management	-	-	-	Considered for battery pack only
20	5.3	Venting	Venting*-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	-	-	-	Complied
21	5.2	Insulation and Wiring	Insulation and wiring	-	-	-	Considered for battery Pack only
22	5.1	General	Cells and batteries so designed and constructed that they are safe under conditions of both intended use and reasonably foreseeable misuse	-	-	-	The Cell is safe and Continue to function in all respect of its intended use, the cell is safe and does not present significant Hazards under the condition of reasonably foreseeable misuse
23	5	General Safety Considerations	General	-	-	-	Complied
24	4	Parameter Measurement Tolerances	Parameter measurement tolerances	-	-	-	All controlled and measured values were within the tolerances.

Md. Fakhre Alam
OIC Electrical
(Authorized Signatory)
Authorized on: 27 May, 2023 17:10 PM

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PART D. REMARKS

Md. Fakhre Alam
OIC Electrical
(Authorized Signatory)
Authorized on: 27 May, 2023 17:10 PM

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CIN NO U21014UP1987PTC008956

TC-6468

SUMMARY OF TEST REPORT

TEST REPORT NO: SC23EPF07530_1 DATED: 27/05/2023

(Number of pages in test report: Page no. 1 to 51) URS Ref. : URS/LAB/01/RID/23-24/592

TEST FORMAT AS PER IS 16046(Part 2):2018/IEC 62133-2:2017

1.Name of Manufacturer: JIANGXI DONGTENG LITHIUM CO., LTD.

2.Product: Rechargeable Li-ion Cell

3. Model(s): Lead Model:INR21700 5.0Ah
Series Model:INR21700 4.8Ah , INR21700 4.5Ah , INR21700 4.2Ah , INR21700 4.0Ah , INR21700 3.5Ah, INR21700 3.0Ah, INR18650 2.9Ah, INR18650 2.6Ah , INR18650 2.5Ah, INR18650 2.2Ah, INR18650 2.0Ah, INR18650 1.8Ah , INR18650 1.5Ah, INR18500 1.4Ah, INR18500 1.2Ah , INR18490 2.25Ah , INR18490 2.0Ah, INR18490 1.6Ah , INR18490 1.5Ah

4.Model differences provided (if applicable): Yes

5.Model differences verified as per MEITY Guidelines for series formulation: Yes

6.Test Results: See Below

S No.	TEST REQUIREMENT	CLAUSE	VERDICT
1	Parameter measurement tolerances	4.0	Pass
2	General safety considerations	5.0	Pass
3	Venting	5.3	Pass
4	Temperature/Current management	5.4	N/A
5	Terminal contacts	5.5	Pass
6	Assembly of cells into batteries	5.6	N/A
7	Quality plan	5.7	Pass
8	Battery safety components	5.8	N/A
9	Type test and sample size	6.0	Pass
10	Charging procedure for test purposes	7.1	Pass
11	Intended use	7.2	Pass
12	Reasonably foreseeable misuse	7.3	Pass
13	Information for Safety	8.0	Pass
14	Marking	9.0	Pass
15	Packaging and transport	10.0	Pass

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16	Charging and discharging range of secondary lithium ion cells for safe use	ANNEX A	Pass
17	Recommendations to equipment manufacturers and battery assemblers	ANNEX B	Pass
18	Recommendation to the end-users	ANNEX C	Pass
19	Measurement of internal ac resistance for coin cells	ANNEX D	N/A
20	Packing and transport	ANNEX E	Pass
21	Component standards references	ANNEX F	N/A

General Information:

The conformity certificates of critical components are verified to ensure complete testing of apparatus under test and details regarding harmonized IEC standards (where IEC standards are not available) are also provided in the list of critical component.

CONCLUSION:

1) Sample meets all relevant requirements of 16046(Part 2):2018/IEC 62133-2:2017: YES

2) Sample fails to meet the following test requirements: N/A

3) I hereby, undertake that the verdict stated in the test report for all the tests matches with the test results.

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(Signature of Authorized person with Stamp)

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TC-6468

Manufacturer	JIANGXI DONGTENG LITHIUM CO., LTD. XINHUA INDUSTRIAL COMMUNITY, DAYU COUNTY, GANZOU CITY, JAINGXI PROVINCE, CHINA, 341500		
Test item:	Rechargeable Li-ion Cell		
Identification	Lead Model:INR21700 5.0Ah Series Model:INR21700 4.8Ah , INR21700 4.5Ah , INR21700 4.2Ah , INR21700 4.0Ah , INR21700 3.5Ah, INR21700 3.0Ah, INR18650 2.9Ah, INR18650 2.6Ah , INR18650 2.5Ah, INR18650 2.2Ah, INR18650 2.0Ah, INR18650 1.8Ah , INR18650 1.5Ah, INR18500 1.4Ah, INR18500 1.2Ah , INR18490 2.25Ah , INR18490 2.0Ah, INR18490 1.6Ah , INR18490 1.5Ah	Serial No.:	Nil
Receipt No.:	URS/LAB/SCLS/23-24/1774 / 23ECAA5N	Date of receipt:	12/05/2023
Testing laboratory and its address:	URS PRODUCTS AND TESTING PRIVATE LIMITED F-3, Sector-6 Noida-201301		
Test specification:	IS 16046 (Part 2):2018 / IEC 62133-2:2017		
Test Result:	The test item passed the test specification(s)		
Other Aspects:			

- Equipment under test(EUT) is Rechargeable Li-ion Cell Lead Model "INR21700 5.0Ah" has been tested as per IS 16046 (Part2):2018 / IEC 62133-2:2017 complies to all the applicable parameters.
- P=Pass, F=Fail, N/A=Not Applicable
- Compliance statement in this report has been made considering decision rule as inherent in its test standard and latest version of ILAC G-8.

This test report relates to the test sample submitted and list of documents attached.

Tested by:	Approved by / Authorized Signatory:	Issued by:
Akhilesh Kumar	URS PRODUCTS & TESTING PVT. LTD.	
Akhilesh Kumar , Analyst	Md Fakhre Alam , Sr. Technical Manager	Md Fakhre Alam , Sr. Technical Manager
Date:27/05/2023	Date:27/05/2023	Date:27/05/2023

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TC-6468

TEST REPORT
IS 16046 (Part 2):2018 / IEC 62133-2:2017
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 Reference No. :	SC23EPF07530_1
Date of issue :	27/05/2023
Total number of pages	51
Testing Laboratory	URS PRODUCTS AND TESTING PRIVATE LIMITED
Address	F-3, Sector-6 Noida-201301
Manufacturer's name :	JIANGXI DONGTENG LITHIUM CO., LTD.
Address	XINHUA INDUSTRIAL COMMUNITY, DAYU COUNTY, GANZOU CITY, JAINGXI PROVINCE, CHINA, 341500
Test specification:	
Standard	IS 16046 (Part 2):2018 / IEC 62133-2:2017
Test procedure	BIS Compliance Report
Non-standard test method	N/A
Test Report Form No:	BIS_BAT/SCAB_IS16046(PART2)_V1.0
Test Report Form(s) Originator	Bureau of Indian Standards
Master TRF	10.01.2019
Test item description:	Rechargeable Li-ion Cell
Trade Mark	DTLY
Model/Type reference	Lead Model:INR21700 5.0Ah Series Model:INR21700 4.8Ah , INR21700 4.5Ah , INR21700 4.2Ah , INR21700 4.0Ah , INR21700 3.5Ah, INR21700 3.0Ah, INR18650 2.9Ah, INR18650 2.6Ah , INR18650 2.5Ah, INR18650 2.2Ah, INR18650 2.0Ah, INR18650 1.8Ah , INR18650 1.5Ah, INR18500 1.4Ah, INR18500 1.2Ah , INR18490 2.25Ah , INR18490 2.0Ah, INR18490 1.6Ah , INR18490 1.5Ah
Ratings	3.7Vdc, 5.0Ah, 18.5Wh (Copy of marking label page no. 05)
Other Documents submitted	Please refer to table – List of attachments at page no. 04

Tested by:	Approved by / Authorized Signatory:	Issued by:
Akhilesh Kumar	URS PRODUCTS & TESTING PVT. LTD.	
Akhilesh Kumar , Analyst	Md Fakhre Alam , Sr. Technical Manager	Md Fakhre Alam , Sr. Technical Manager
Date:27/05/2023	Date:27/05/2023	Date:27/05/2023

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TC-6468

Description	Measurement/ testing	Total No. of tests	Total no. of applicable tests/ Req.	No. of tests/ Req. passed	Page No.
General Requirements	Parameter measurement tolerances	01	01	01	18
General safety considerations	Insulation and wiring	09	03	03	19
General safety considerations	Venting	03	02	02	20
General safety considerations	Temperature/voltage/Current management	04	00	N/A	21
General safety considerations	Terminal contacts	04	04	04	22
General safety considerations	Assembly of cells into batteries	23	00	N/A	23
General safety considerations	Quality plan	02	02	02	26
General safety considerations	Battery safety components	02	00	N/A	27
Type test and sample size	Type test conditions	06	03	03	28
Specific requirements and tests	Charging procedure for test purposes	09	08	08	29
Specific requirements and tests	Intended use	07	04	04	30
Specific requirements and tests	Reasonably foreseeable misuse	48	17	17	31
Information for safety	Information for safety	12	03	03	34
Marking Requirements	Marking	16	06	06	36
Packaging and Transport	Packaging	03	02	02	38
Charging and discharging range of secondary lithium ion cells for safe use	Charging and discharging range of secondary lithium ion cells for safe use (Annex A)	51	24	24	39
Measurement of the internal AC resistance for coin cells	Measurement of the internal AC resistance for coin cells (Annex D)	06	00	N/A	43

Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

(Approving Authority)

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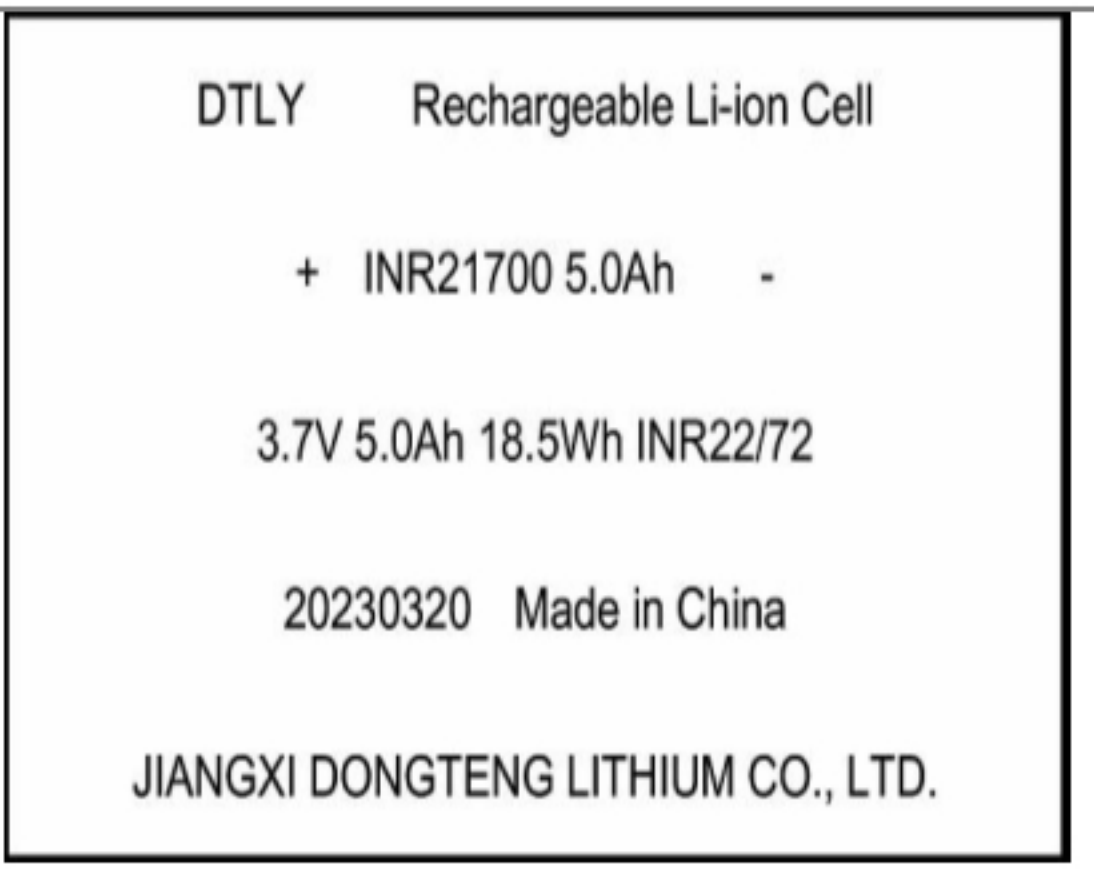
TC-6468

Table – List of Attachments

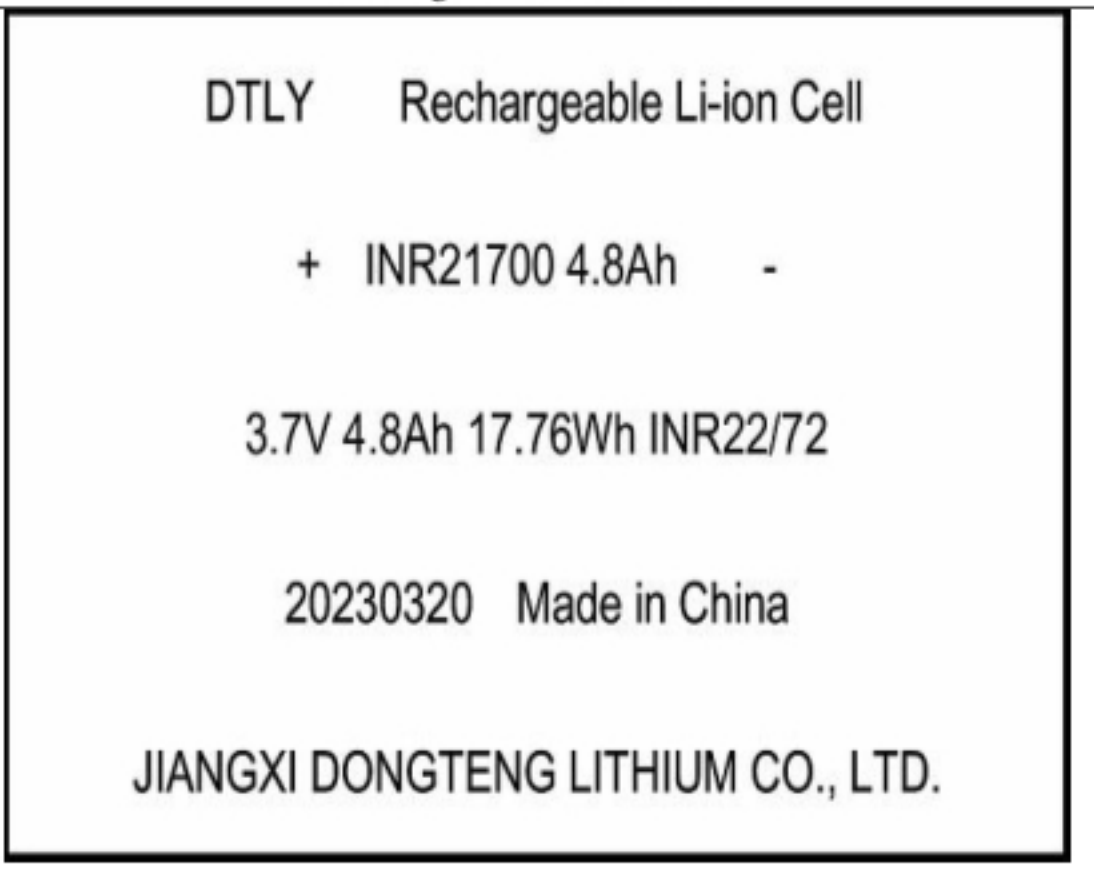
Attachment No.	Attachment Description	No. of pages in Attachment
Attachment-1	Photo document	51-51

Copy of marking plate:

Copy of marking label:



Marking Label of Lead Model



Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR21700 4.5Ah -

3.7V 4.5Ah 16.65Wh INR22/72

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR21700 4.2Ah -

3.7V 4.2Ah 15.54Wh INR22/72

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR21700 4.0Ah -

3.7V 4.0Ah 14.8Wh INR22/72

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR21700 3.5Ah -

3.7V 3.5Ah 12.95Wh INR22/72

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

URS PRODUCTS & TESTING PVT. LTD.

DTLY Rechargeable Li-ion Cell

\+ INR21700 3.0Ah -

3.7V 3.0Ah 11.1Wh INR22/72

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18650 2.9Ah -

3.7V 2.9Ah 10.73Wh INR19/66

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18650 2.6Ah -

3.7V 2.6Ah 9.62Wh INR19/66

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18650 2.5Ah -

3.7V 2.5Ah 9.25Wh INR19/66

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

URS PRODUCTS & TESTING PVT. LTD.

DTLY Rechargeable Li-ion Cell

\+ INR18650 2.2Ah -

3.7V 2.2Ah 8.14Wh INR19/66

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18650 2.0Ah -

3.7V 2.0Ah 7.4Wh INR19/66

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

URS PRODUCTS & TESTING PVT. LTD.

DTLY Rechargeable Li-ion Cell

\+ INR18650 1.8Ah -

3.7V 1.8Ah 6.66Wh INR19/66

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18650 1.5Ah -

3.7V 1.5Ah 5.55Wh INR19/66

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18500 1.4Ah -

3.7V 1.4Ah 5.18Wh INR19/50

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18500 1.2Ah -

3.7V 1.2Ah 4.44Wh INR19/51

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18490 2.25Ah -

3.7V 2.25Ah 8.325Wh INR19/50

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18490 2.0Ah -

3.7V 2.0Ah 7.4Wh INR19/50

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18490 1.6Ah -

3.7V 1.6Ah 5.92Wh INR19/50

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

DTLY Rechargeable Li-ion Cell

\+ INR18490 1.5Ah -

3.7V 1.5Ah 5.55Wh INR19/50

20230320 Made in China

JIANGXI DONGTENG LITHIUM CO., LTD.

Marking Label of Series Model

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TC-6468

Test item particulars	Rechargeable Li-ion Cell
Classification of installation and use	Class III & used in the portable application
Supply Connection	Not directly connected to mains
Recommend charging method declared by the manufacturer	CC/CV
Discharge current (0,2 It A)	1000mA
Specified final voltage	2.75V (Discharging Voltage)
Upper limit charging voltage per cell	4.20V
Maximum charging current	5000mA
Charging temperature upper limit	45°C
Charging temperature lower limit	0°C

Polymer cell electrolyte type ☐ gel polymer ☐ solid polymer ☑ NA

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:	12/05/2023
Date(s) of performance of tests:	12/05/2023 to 27/05/2023

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Laboratory conditions

Ambient Temperature:	(20±5)°C
Ambient Humidity:	(60±15)%RH

URS PRODUCTS & TESTING PVT. LTD.

General product information:

1) Application details / Description of the product:

The Equipment under test (EUT) is Rechargeable Li-ion Cell Lead Model "INR21700 5.0Ah" has been tested as per IS 16046 (Part 2):2018 / IEC 62133-2:2017 complies to all the applicable parameters.

Equipment under test(EUT) details mention below:
Test Item: Rechargeable Li-ion Cell
Brand Name: DTLY
Model Name: Lead Model Name: INR21700 5.0Ah, Series Models: INR21700 4.8Ah , INR21700 4.5Ah , INR21700 4.2Ah , INR21700 4.0Ah , INR21700 3.5Ah, INR21700 3.0Ah, INR18650 2.9Ah, INR18650 2.6Ah , INR18650 2.5Ah, INR18650 2.2Ah, INR18650 2.0Ah, INR18650 1.8Ah , INR18650 1.5Ah, INR18500 1.4Ah, INR18500 1.2Ah , INR18490 2.25Ah , INR18490 2.0Ah, INR18490 1.6Ah , INR18490 1.5Ah
Electrical Rating: 3.7Vdc, 5.0Ah, 18.5Wh
(Copy of marking label page no. 05)

Model	Standard Charging Voltage (Vdc)	Standard Charging Current (mA)	Maximum Charging Current (mA)	Discharging Current (mA)	End Discharge Voltage (Vdc)	Cut-off Current(mA)
INR21700 5.0Ah	4.20	1000	5000	1000	2.75	100

Max. specified ambient temperature (°C) :	Charging temp. Range: 0°C ~ + 45°C, Discharge temp. Range: -10°C ~ + 60°C

2) Differences between the models:

Similarities:
a) Same Nominal Voltage
b) Cell of Same construction Design
c) Same type of Electrode/Electrolytes used

Differences:
a) Model Name
b) Rated Capacity

Model Name	Voltage (V)	Capacity(mAh)
INR21700 5.0Ah (Lead Model)	3.7	5.0
INR21700 4.8Ah	3.7	4.8
INR21700 4.5Ah	3.7	4.5
INR21700 4.2Ah	3.7	4.2
INR21700 4.0Ah	3.7	4.0
INR21700 3.5Ah	3.7	3.5
INR21700 3.0Ah	3.7	3.0
INR18650 2.9Ah	3.7	2.9
INR18650 2.6Ah	3.7	2.6
INR18650 2.5Ah	3.7	2.5
INR18650 2.2Ah	3.7	2.2

URS PRODUCTS & TESTING PVT. LTD.

INR18650 2.0Ah	3.7	2.0
INR18650 1.8Ah	3.7	1.8
INR18650 1.5Ah	3.7	1.5
INR18500 1.4Ah	3.7	1.4
INR18500 1.2Ah	3.7	1.2
INR18490 2.25Ah	3.7	2.25
INR18490 2.0Ah	3.7	2.0
INR18490 1.6Ah	3.7	1.6
INR18490 1.5Ah	3.7	1.5

Model No. tested with-in the family series
INR21700 5.0Ah (Worst Case)

3) Options:
The equipment was tested without any optional accessory installed. Hence, this report does not cover parameters that are influenced by the installation of optional accessory that might affect safety in the meaning of this standard.

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CIN NO U21014UP1987PTC008956

TC-6468

Clause	Requirement + Test	Result - Remark	Verdict
4	Parameter measurement tolerances	All controlled and measured values were within the tolerances.	P

*- Total number of Requirements to be observed / inspected =01
Total No. of applicable Requirement =01
No. of Requirements for which the sample passed =01
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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TC-6468

Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL SAFETY CONSIDERATIONS	See below	P
5.1	General	The Cell is safe and Continue to function in all respect of its intended use, the cell is safe and does not present significant Hazards under the condition of reasonably foreseeable misuse	P
	Cells and batteries so designed and constructed that they are safe under conditions of both intended use and reasonably foreseeable misuse	Complied	P
5.2	Insulation and wiring	See below	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	Considered for battery Pack only	N/A
	Insulation resistance (MΩ) ..... :	As above	N/A
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements	As above	N/A
	Orientation of wiring maintains adequate clearance and creepage distances between conductors	As above	N/A
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse	As above	N/A

*- Total number of Requirements to be observed / inspected =09
Total No. of applicable Requirement =03
No. of Requirements for which the sample passed =03
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
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Clause	Requirement + Test	Result - Remark	Verdict
5.3	Venting	See below	P
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition	The edge of packing which next to terminal was considered as the pressure relief mechanism, which can release pressure during the abnormal condition	P
	Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief	The cell is a built-in product, which shall be enclosed in a rigid case, and will be evaluated in a final system	N/A

*- Total number of Requirements to be observed / inspected =03
Total No. of applicable Requirement =02
No. of Requirements for which the sample passed =02
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
5.4	Temperature, voltage and current management	Considered for battery pack only	N/A
	Batteries are designed such that abnormal temperature rise conditions are prevented	As above	N/A
	Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer	As above	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	As above	N/A

*- Total number of Requirements to be observed / inspected =00
Total No. of applicable Requirement =00
No. of Requirements for which the sample passed =N/A
Total number of tests to be conducted =04
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be not applicable in the requirement tested.

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TC-6468

Clause	Requirement + Test	Result - Remark	Verdict
5.5	Terminal contacts	See below	P
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current	The size and shape of the terminal contacts are suitable for the maximum anticipated current	P
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance	In compliance	P
	Terminal contacts are arranged to minimize the risk of short-circuit	In compliance	P

*- Total number of Requirements to be observed / inspected =04
Total No. of applicable Requirement =04
No. of Requirements for which the sample passed =04
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
5.6	Assembly of cells into batteries	Considered for battery pack only	N/A
5.6.1	General	As above	N/A
	Each battery have an independent control and protection for current, voltage, temperature and any other parameter required for safety and to maintain the cells within their operating region	As above	N/A
	This protection may be provided external to the battery such as within the charger or the end devices	As above	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	As above	N/A
	If there is more than one battery housed in a single battery case, each battery have protective circuitry that can maintain the cells within their operating regions	As above	N/A
	Manufacturers of cells specify current, voltage and temperature limits so that the battery manufacturer/designer may ensure proper design and assembly	As above	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	As above	N/A
	Protective circuit components added as appropriate and consideration given to the end-device application	As above	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	As above	
5.6.2	Design recommendation	As above	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	As above	N/A
	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	As above	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	As above	N/A
	For batteries consisting of series-connected cells or cell blocks, nominal charge voltage not be counted as an overcharge protection	As above	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	As above	N/A
	It is recommended that the cells and cell blocks not discharged beyond the cell manufacturer's specified final voltage	As above	N/A
	For batteries consisting of series-connected cells or cell blocks, cell balancing circuitry incorporated into the battery management system	As above	N/A

5.6.3	Mechanical protection for cells and components of batteries	As above	N/A
	Mechanical protection for cells, cell connections and control circuits within the battery provided to prevent damage as a result of intended use and reasonably foreseeable misuse	As above	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	As above	N/A
	The battery case and compartments housing cells designed to accommodate cell dimensional tolerances during charging and discharging as recommended by the cell manufacturer	As above	N/A
	For batteries intended for building into a portable end product, testing with the battery installed within the end product considered when conducting mechanical tests	As above	N/A

*- Total number of Requirements to be observed / inspected =23
Total No. of applicable Requirement =00
No. of Requirements for which the sample passed =N/A
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
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TC-6468

Clause	Requirement + Test	Result - Remark	Verdict
5.7	Quality plan	See below	P
	The manufacturer prepares and implements a quality plan that defines procedures for the inspection of materials, components, cells and batteries and which covers the whole process of producing each type of cell or battery	The manufactures provide an ISO 9001 Certificate for reference	P

*- Total number of Requirements to be observed / inspected =02
Total No. of applicable Requirement =02
No. of Requirements for which the sample passed =02
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
5.8	Battery safety components	Considered for battery pack only	N/A
	According annex F	As above	N/A

*- Total number of Requirements to be observed / inspected =02
Total No. of applicable Requirement =00
No. of Requirements for which the sample passed =N/A
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be not applicable in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
6	TYPE TEST AND SAMPLE SIZE	See below	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	Provided Samples are complied within 6 month from the manufacturing date	P
	Coin cells with resistance ≤ 3 Ω (measured according annex D) are tested according table 1	This is consider for only Coin Cell	N/A
	Unless otherwise specified, tests are carried out in an ambient temperature of 20 °C ± 5 °C	Considered and evaluated for the Cells	P
	The safety analysis of 5.6.1 identify those components of the protection circuit that are critical for short-circuit, overcharge and overdischarge protection	Considered for battery pack only	N/A
	When conducting the short-circuit test, consideration given to the simulation of any single fault condition that is likely to occur in the protecting circuit that would affect the short-circuit test	Considered for battery pack only	N/A

*- Total number of Requirements to be observed / inspected =06
Total No. of applicable Requirement =03
No. of Requirements for which the sample passed =03
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
7	SPECIFIC REQUIREMENTS AND TESTS	See below	P
7.1	Charging procedure for test purposes	In compliance	P
7.1.1	First procedure	See below	P
	This charging procedure applies to subclauses other than those specified in 7.1.2	Except Procedure specified in Clause No. 7.1.2 First procedure used	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	The cell were charged at an ambient temperature of (20°C ± 5°C) according to manufacture specification	P
	Prior to charging, the battery have been discharged at 20 °C ± 5 °C at a constant current of 0,2 It A down to a specified final voltage	This is not a battery Pack	N/A
7.1.2	Second procedure	See below	P
	This charging procedure applies only to 7.3.1, 7.3.4, 7.3.5, and 7.3.9	Second Procedure used for test of Clause No. 7.3.1,7.3.4, and 7.3.5	P
	After stabilization for 1 h and 4 h, respectively, at ambient temperature of highest test temperature and lowest test temperature, 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 voltage charging method	Complied	P

*- Total number of Requirements to be observed / inspected =01
Total No. of applicable Requirement =01
No. of Requirements for which the sample passed =01
Total number of tests to be conducted =08
Total No. of applicable Tests =07
No. of tests for which the sample passed =07
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
7.2	Intended use	See below	P
7.2.1	Continuous charging at constant voltage (cells)	Complied	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	Five fully charged cells are subjected for 7 days to a charge as specified by manufacturer	P
	Results: No fire. No explosion. No leakage	No Fire, No Explosion, No Leakage during and after the test	P
7.2.2	Case stress at high ambient temperature (battery)	Considered for battery pack only	N/A
	Oven temperature (°C)	As above	N/A
	Results: No physical distortion of the battery case resulting in exposure of internal protective components and cells	As above	N/A

*- Total number of Requirements to be observed / inspected =05
Total No. of applicable Requirement =03
No. of Requirements for which the sample passed =03
Total number of tests to be conducted =02
Total No. of applicable Tests =01
No. of tests for which the sample passed =01
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
7.3	Reasonably foreseeable misuse	See below	P
7.3.1	External short-circuit (cell)	Complied	P
	The cells were tested until one of the following occurred:	See below	P
	- 24 hours elapsed; or	No such condition observed	N/A
	- The case temperature declined by 20 % of the maximum temperature rise	Cell case temperature declined by 20% of the maximum temperature rise.	P
	Results: No fire. No explosion	No fire, no explosion	P
7.3.2	External short-circuit (battery)	See below	N/A
	The batteries were tested until one of the following occurred:	Considered for battery pack only	N/A
	- 24 hours elapsed; or	As above	N/A
	- The case temperature declined by 20 % of the maximum temperature rise	As above	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	As above	N/A
	A single fault in the discharge protection circuit conducted on one to four (depending upon the protection circuit) of the five samples before conducting the short-circuit test	As above	N/A
	A single fault applies to protective component parts such as MOSFET, fuse, thermostat or positive temperature coefficient (PTC) thermistor	As above	N/A
	Results: No fire. No explosion	As above	N/A
7.3.3	Free fall	Fully charged Cells tested for this condition, The testing was conducted at 20°C ± 5°C	P
	Results: No fire. No explosion	No fire, No explosion	P
7.3.4	Thermal abuse (cells)	Fully charged cells were placed in a gravity or circulating air-convection oven. And tested for this condition	P
	Oven temperature (°C)	130°C±2°C	P
	Results: No fire. No explosion	No fire, No explosion after the test	P
7.3.5	Crush (cells)	Complied	P

	The crushing force was released upon:	See below	P
	- The maximum force of 13 kN ± 0,78 kN has been applied; or	Maximum force of 13 kN±0.78 kN has been applied	P
	- An abrupt voltage drop of one-third of the original voltage has been obtained	No such condition observed	N/A
	Results: No fire. No explosion	No fire, No explosion occurred after the test	P
7.3.6	Over-charging of battery	See below	N/A
	The supply voltage which is:	Considered for battery pack only	N/A
	- 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	As above	N/A
	- 1,2 times the upper limit charging voltage resented in Table A.1 per cell for series connected multi-cell batteries, and	As above	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	As above	N/A
	Test was continued until the temperature of the outer casing:	As above	N/A
	- Reached steady state conditions (less than 10 °C change in 30-minute period); or	As above	N/A
	- Returned to ambient	As above	N/A
	Results: No fire. No explosion	As above	N/A
7.3.7	Forced discharge (cells)	Five fully Discharged cells tested for this condition (See table 7.3.7)	P
	If the discharge voltage reaches the negative value of upper limit charging voltage within the testing duration, the voltage is maintained at the negative value of the upper limit charging voltage by reducing the current for the remainder of the testing duration	No such condition observed	N/A
	If the discharge voltage does not reach the negative value of upper limit charging voltage within the testing duration, the test is	In compliance	P

	terminated at the end of the testing duration		
	Results: No fire. No explosion	No fire, No explosion observed after the test	P
7.3.8	Mechanical tests (batteries)	See below	N/A
7.3.8.1	Vibration	Considered for battery pack only	N/A
	Results: No fire, no explosion, no rupture, no leakage or venting.	As above	N/A
7.3.8.2	Mechanical shock	Considered for battery pack only	N/A
	Results: No leakage, no venting, no rupture, no explosion and no fire	As above	N/A
7.3.9	Design evaluation – Forced internal short-circuit (cells)	This is country specific test applicable only in France, Japan, Korea & Switzerland	N/A
	The cells complied with national requirement for	As above	N/A
	The pressing was stopped upon:	As above	N/A
	- A voltage drop of 50 mV has been detected; or	As above	N/A
	- The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) has been reached	As above	N/A
	Results: No fire	As above	N/A

*- Total number of Requirements to be observed / inspected =12
Total No. of applicable Requirement =04
No. of Requirements for which the sample passed =04
Total number of tests to be conducted =36
Total No. of applicable Tests =13
No. of tests for which the sample passed =13
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Clause	Requirement + Test	Result - Remark	Verdict
8	INFORMATION FOR SAFETY	Complied	P
8.1	General	See below	P
	Manufacturers of secondary cells ensure that information is provided about current, voltage and temperature limits of their products	Current, voltage and temperature limits information provided in product specification	P
	Manufacturers of batteries ensure that equipment manufacturers and, in the case of direct sales, end-users are provided with information to minimize and mitigate hazards	Consider for battery pack only	N/A
	Systems analyses performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product	Consider for battery pack only	N/A
	As appropriate, any information relating to hazard avoidance resulting from a system analysis provided to the end user	Consider for battery pack only	N/A
	Do not allow children to replace batteries without adult supervision	Consider for battery pack only	N/A
8.2	Small cell and battery safety information	See below	N/A
	The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them:	This is not a small Cell	N/A
	- Keep small cells and batteries which are considered swallowable out of the reach of children- Keep small cells and batteries which are considered swallowable out of the reach of children	As above	N/A
	- Swallowing may lead to burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion	As above	N/A
	- In case of ingestion of a cell or battery, seek medical assistance promptly	As above	N/A

*- Total number of Requirements to be observed / inspected =12
Total No. of applicable Requirement =03

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No. of Requirements for which the sample passed =03
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
9	MARKING	See below	P
9.1	Cell marking	Marked (See copy of marking label page no. 5)	P
	Cells marked as specified in IEC 61960, except coin cells	As above	P
	Coin cells whose external surface area is too small to accommodate the markings on the cells show the designation and polarity	This is not a Coin Cell	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	Appropriate marking label provided on the sample	N/A
9.2	Battery marking	See below	N/A
	Batteries marked as specified in IEC 61960, except for coin batteries	Product is Rechargeable Li-ion Cell	N/A
	Coin batteries whose external surface area is too small to accommodate the markings on the batteries show the designation and polarity. Batteries also marked with an appropriate caution statement	As above	N/A
	Terminals have clear polarity marking on the external surface of the battery	As above	N/A
	Batteries with keyed external connectors designed for connection to specific end products need not be marked with polarity markings if the design of the external connector prevents reverse polarity connections	As above	N/A
9.3	Caution for ingestion of small cells and batteries	See below	N/A
	Coin cells and batteries identified as small batteries according to 8.2 include a caution statement regarding the hazards of ingestion in accordance with 8.2	This is not a Coin Cell	N/A
	When small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for	This is not a small cell	N/A

	ingestion given on the immediate package		
9.4	Other information	See below	P
	Storage and disposal instructions	Storage and Disposal Instruction are provide in specification sheet	P
	Recommended charging instructions	Charging specification provided on manufacturer specification	P

*- Total number of Requirements to be observed / inspected =16
Total No. of applicable Requirement =06
No. of Requirements for which the sample passed =06
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
10	PACKAGING AND TRANSPORT	See below	P
	Packaging for coin cells not small enough to fit within the limits of the ingestion gauge of Figure 3	This is not a Coin Cell	N/A
	The materials and packaging design are chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of environmental contaminants	Satisfactory	P

*- Total number of Requirements to be observed / inspected =01
Total No. of applicable Requirement =01
No. of Requirements for which the sample passed =01
Total number of tests to be conducted =02
Total No. of applicable Tests =01
No. of tests for which the sample passed =01
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

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Clause	Requirement + Test	Result - Remark	Verdict
ANNEX A	CHARGING AND DISCHARGING RANGE OF SECONDARY LITHIUM ION CELLS FOR SAFE USE	In compliance	P
A.1	General	See below	P
A.2	Safety of lithium ion secondary battery	Not for Cell	N/A
A.3	Consideration on charging voltage	See below	P
A.3.1	General	Charging voltage applied as per manufacturer specification	P
A.3.2	Upper limit charging voltage	See below	P
A.3.2.1	General	Upper limit charging voltage is 4.20V	P
A.3.2.2	Explanation of safety viewpoint	Charging voltage applied during the testing is with-in the upper limit	P
A.3.2.3	Safety requirements, when different upper limit charging voltage is applied	Considered	P
A.4	Consideration of temperature and charging current	In compliance	P
A.4.1	General	See below	P
A.4.2	Recommended temperature range	Charge temperature declared by the manufacture 0°C~45°C	P
A.4.2.1	General	See below	P
A.4.2.2	Safety consideration when a different recommended temperature range is applied	Test carried out at temperature range -5°C~45°C	P
A.4.3	High temperature range	High temperature range is not exceeded 45°C	N/A
A.4.3.1	General	As above	N/A
A.4.3.2	Explanation of safety viewpoint	As above	N/A
A.4.3.3	Safety considerations when specifying charging conditions in the high temperature range	As above	N/A
A.4.3.4	Safety considerations when specifying a new upper limit in the high temperature range	As above	N/A
A.4.4	Low temperature range	See below	P
A.4.4.1	General	Lower temperature range is 0°C	P
A.4.4.2	Explanation of safety viewpoint	Considered	P
A.4.4.3	Safety considerations, when specifying charging conditions in the low temperature range	Charge at -5°C for lower temperature range	P
A.4.4.4	Safety considerations when	As above	P

	specifying a new lower limit in the low temperature range		
A.4.5	Scope of the application of charging current	In compliance	P
A.4.6	Consideration of discharge	See below	P
A.4.6.1	General	In compliance	P
A.4.6.2	Final discharge voltage and explanation of safety viewpoint	Considered as per manufacturer recommendation	P
A.4.6.3	Discharge current and temperature range	As above	P
A.4.6.4	Scope of application of the discharging current	In compliance	P
A.5	Sample preparation	This is country specific test applicable only in France, Japan, Korea & Switzerland	N/A
A.5.1	General	As above	N/A
A.5.2	Insertion procedure for nickel particle to generate internal short	As above	N/A
A.5.3	Disassembly of charged cell	As above	N/A
A.5.4	Shape of nickel particle	As above	N/A
A.5.5	Insertion of nickel particle in cylindrical cell	As above	N/A
A.5.5.1	Insertion of nickel particle in winding core	As above	N/A
A.5.5.2	Marking the position of the nickel particle on both ends of the winding core of the separator	As above	N/A
A.5.6	Insertion of nickel particle in prismatic cell	As above	N/A
A.6	Experimental procedure of the forced internal short-circuit test	As above	N/A
A.6.1	Material and tools for preparation of nickel particle	As above	N/A
A.6.2	Example of a nickel particle preparation procedure	As above	N/A
A.6.3	Positioning (or placement) of a nickel particle	As above	N/A
A.6.4	Damaged separator precaution	As above	N/A
A.6.5	Caution for rewinding separator and electrode	As above	N/A
A.6.6	Insulation film for preventing short-circuit	As above	N/A
A.6.7	Caution when disassembling a cell	As above	N/A

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TC-6468

A.6.8	Protective equipment for safety	As above	N/A
A.6.9	Caution in the case of fire during disassembling	As above	N/A
A.6.10	Caution for the disassembling process and pressing the electrode core	As above	N/A
A.6.11	Recommended specifications for the pressing device	As above	N/A

*- Total number of Requirements to be observed / inspected =51
Total No. of applicable Requirement =24
No. of Requirements for which the sample passed =24
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be passing in the requirement tested.

(Approving Authority)

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Clause	Requirement + Test	Verdict
ANNEX B	RECOMMENDATIONS TO EQUIPMENT MANUFACTURERS AND BATTERY ASSEMBLERS	P

Clause	Requirement + Test	Verdict
ANNEX C	RECOMMENDATIONS TO THE END-USERS	P

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Clause	Requirement + Test	Result - Remark	Verdict
ANNEX D	MEASUREMENT OF THE INTERNAL AC RESISTANCE FOR COIN CELLS	See below	N/A
D.1	General	This is not a coin cells	N/A
D.2	Method	As above	N/A
	A sample size of three coin cells is required for this measurement	As above	N/A
	Coin cells with an internal resistance of less than or equal to 3 Ω are subjected to the testing according to Clause 6 and Table 1	As above	N/A
	Coin cells with an internal resistance greater than 3 Ω require no further testing	As above	N/A

*- Total number of Requirements to be observed / inspected =06
Total No. of applicable Requirement =00
No. of Requirements for which the sample passed =N/A
Total number of tests to be conducted =00
Total No. of applicable Tests =00
No. of tests for which the sample passed =N/A
Certificate: It is certified that the above tests were performed and found to be not applicable in the requirement tested.

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Clause	Requirement + Test	Verdict
ANNEX E	PACKAGING AND TRANSPORT	P

Clause	Requirement + Test	Verdict
ANNEX F	COMPONENT STANDARDS REFERENCES	N/A

TABLE: Critical components information | P

Object/part No.	Manufacturer/ trademark	Type/Model	Technical Data	Standard	Marks of Conformity
Electrolyte	Xia'men Shouneng Technology Co., Ltd	SN3334H	Density:1.24g/ml;H2O content≤20PPM,LiPF6	IS 16046 (Part 2) : 2018 / IEC 62133-2 : 2017	Tested With Cell
Separator	Shenzhen Jinglitai Technology Co., Ltd	Wet method monolayer PE16um*61mm	Tg135°C-159°C, Puncture strength≥500gf	IS 16046 (Part 2) : 2018 / IEC 62133-2 : 2017	Tested With Cell
Positive Electrode	Xinxiang Tianli Litium Energy Co., Ltd	TLP813	LiNixCoyMn1-x-yO2	IS 16046 (Part 2) : 2018 / IEC 62133-2 : 2017	Tested With Cell
Negative Electrode	Shandong Heyu NewEnergy Co., Ltd	G3	Graphite	IS 16046 (Part 2) : 2018 / IEC 62133-2 : 2017	Tested With Cell
Positive Electrode Tab	Shenzhen Kangheng Technology Co., Ltd	5.0*0.1mm	Aluminum belt	IS 16046 (Part 2) : 2018 / IEC 62133-2 : 2017	Tested With Cell
Negative Electrode Tab	Shenzhen Kangheng Technology Co., Ltd	4.0*0.08mm	Nickel belt	IS 16046 (Part 2) : 2018 / IEC 62133-2 : 2017	Tested With Cell
Cell Case	Ningbo Guanghua Technology Co., Ltd	21700	21.5*73.70*0.22mm	IS 16046 (Part 2) : 2018 / IEC 62133-2 : 2017	Tested With Cell

Supplementary information:
Evidence provided by the manufacturer for the listed components are verified by us and the evidence is are conforming to the requirements of the relevant standard.

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7.2.1	TABLE: Continuous charging at constant voltage (cells)		P	
Sample no.	**Recommended charging voltage Vc, (Vdc)**	**Recommended charging current Irec, (A)**	**OCV before test, (Vdc)**	**Results**
31	4.20	1.0	4.16	A & B
32	4.20	1.0	4.17	A & B
33	4.20	1.0	4.19	A & B
34	4.20	1.0	4.17	A & B
35	4.20	1.0	4.18	A & B

Supplementary information:
A: No fire or explosion
B: No leakage
C: Leakage
D: Fire
E: Explosion
F: Bulge
G: Others (please explain)

7.3.1	TABLE: External short-circuit (cell)			P	
Sample no.	Ambient T (°C)	OCV before test, (Vdc)	Resistance of circuit, (mΩ)	Maximum case temperature rise ΔT, (°C)	Results
Samples charged at charging temperature upper limit: 45°C					
1	55°C±5°C	4.17	87	42.6	A
2	55°C±5°C	4.16	84	41.9	A
3	55°C±5°C	4.15	86	42.7	A
4	55°C±5°C	4.19	81	42.4	A
5	55°C±5°C	4.17	80	41.8	A
Sample no.	Ambient T (°C)	OCV before test, (Vdc)	Resistance of circuit, (mΩ)	Maximum case temperature rise ΔT, (°C)	Results
Samples charged at charging temperature lower limit: -5°C					
16	55°C±5°C	4.18	88	42.7	A
17	55°C±5°C	4.16	85	42.3	A
18	55°C±5°C	4.17	83	41.7	A
19	55°C±5°C	4.16	87	42.2	A
20	55°C±5°C	4.15	81	41.9	A

Supplementary information:
A: No fire or explosion
B: No leakage
C: Leakage
D: Fire
E: Explosion
F: Bulge
G: Others (please explain)

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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 (°C)	Component Singel fault Condition	Results
--	--	--	--	--	--	--

Supplementary information:
Considered for battery pack only

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: 45°C				
11	4.17	4.16	13KN±0.78KN	A
12	4.19	4.18	13KN±0.78KN	A
13	4.17	4.17	13KN±0.78KN	A
14	4.19	4.18	13KN±0.78KN	A
15	4.18	4.17	13KN±0.78KN	A
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 lower limit: -5°C				
26	4.18	4.17	13KN±0.78KN	A
27	4.16	4.15	13KN±0.78KN	A
28	4.18	4.17	13KN±0.78KN	A
29	4.17	4.16	13KN±0.78KN	A
30	4.19	4.18	13KN±0.78KN	A

Supplementary information:
A: No fire or explosion
B: No leakage
C: Leakage
D: Fire
E: Explosion
F: Bulge
G: Others (please explain)

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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 casing temperature, (°C)	Results
--	--	--	--	--

Supplementary information:
Considered for battery pack only

7.3.7	TABLE: Forced discharge (cells)			P
Sample no.	**OCV before application of reverse charge, (Vdc)**	**Measured Reverse charge It, (A)**	**Lower limit discharge voltage (Vdc)**	**Results**
39	2.81	5	2.75	A
40	2.83	5	2.75	A
41	2.80	5	2.75	A
42	2.85	5	2.75	A
43	2.79	5	2.75	A

Supplementary information:
A: No fire or explosion
B: No leakage
C: Leakage
D: Fire
E: Explosion
F: Bulge
G: Others (please explain)

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:
Considered for battery pack only

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:
Considered for battery pack only

7.3.9	TABLE: Forced internal short circuit (cells)			N/A
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:--					
--	--	--	--	--	--
Samples charge at charging temperature lower limit:--					
--	--	--	--	--	--

Supplementary information:
This is country specific test applicable only in
France, Japan, Korea & Switzerland

D.2	TABLE: Internal AC resistance for coin cells			N/A
Sample no.	**Ambient T (°C)**	**Store time (h)**	**Resistance Rac (Ω)**	**Results [1)]**
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Supplementary information:
This is not a coin cells

Attachment-1

Marking Label of Cell