

31 May 2024

DECLARATION OF CONFORMITY UN38.3

Orient Technology (S) Pte Ltd herewith confirm that KNB-45L battery pack is proved to meet the requirements of each test in UN Manual of Tests and Criteria for Lithium Metal and Lithium Ion Batteries.

(a), (b) Manufacturer:	Orient Technology (S) Pte. Ltd. 178 Paya Lebar Rd, #07-06, Singapore 409030	Phone: +65 6355 3388 Fax : +65 6841 2633 E-mail:sales@orient- technology.com.sg
(c) Cell UN38.3 Test Laboratory:	Panasonic Energy Co., Ltd 222-1 Kaminaizen, Sumoto City, Hyogo 656-8555. Japan	Phone: +81-799-24-4111 email: un_38_lib@ml.jp. panasonic.com https://industrial.panasonic.com/ww/products/batteries/
(d) Cell Report reference no:	E2435298	
(e) Date of Test Report	22 March 2024	
(f) Performed Test	T.1 Altitude simulation: T.2 Thermal test: T.3 Vibration: T.4 Shock: T.5 External short circuit: T.6 Impact/Crush T.7 Overcharge T.8 Forced discharge	Passed Passed Passed Passed Passed Passed For batteries only, please see attached report Passed
(g) Battery Test Laboratory:	Underwriters Laboratories Taiwan Co., Ltd. 260 Da-Yeh Road, Peitou, Taipei City, Taiwan 112	Phone: +886 2 2896 7790 Fax: +886 2 2891 7644 E-mail: customerservice.tw@ul.com Webpage: taiwan.ul.com
(h) Report reference no:	4790913925-A-1	
(i) Date of Test Report:	31 May 2024	
(j) Description of devices Under test:	(i) Type: (ii) Mass: (iii) Watt-hour Rating: (iv) Physical Description: (v) Model numbers:	Rechargeable Li-Ion Battery Pack Approx. 123g 14Wh 2S/1P cells secured together by spotwelding and enclosure by ultrasonic welding KNB-45L



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(k) Performed tests:	T.1 Altitude simulation:	Passed
	T.2 Thermal test:	Passed
	T.3 Vibration:	Passed
	T.4 Shock:	Passed
	T.5 External short circuit:	Passed
	T.6 Impact/Crush	For cells only, see attached report
	T.7 Overcharge	Passed
	T.8 Forced discharge	For cells only, see attached report

(l) Reference to assembled battery testing requirements: Not applicable

(m) Applied standard: UN Manual of Tests and Criteria Part III, Subsection 38.3 Lithium Metal and Lithium Ion Batteries, UN ST/SG/AC.10/11/ Rev.7/Amend.1

(n) Signature:

Yang Zhenrong, Manager
31 May 2024

Note: This confirmation is valid only in connection to the report reference.

Test summary of UN test for Lithium ion cell

Customer Model : UF103450PN
 Global Code : BJ-C100199AA
 Product Name : UF103450P-H02UA
 Manufacturer : Panasonic Energy Co., Ltd. 222-1 Kaminaizen, Sumoto City, Hyogo 656-8555, Japan
 Tel +81-799-24-4111, email un_38_lib@ml.jp.panasonic.com
<https://industrial.panasonic.com/ww/products/batteries/>

M. Fujikawa General Manager
 Department of Engineering
 Cell Development Division
 Panasonic Energy Co., Ltd.

Test Laboratory : Same as the manufacturer

We declare that this cell passed UN test.

Manual of Tests and Criteria (38.3 Lithium batteries)		Test results	Note	Number of test cells	
No.	Test item				
T 1	Altitude simulation	Pass		First cycle fully charged 10 cells	
T 2	Thermal test	Pass			
T 3	Vibration	Pass			
T 4	Shock	Pass			
T 5	External short circuit	Pass			
T 6	Crush	Pass		First cycle 50% charged 5 cells	
T 7	Overcharge	-	For battery only	For battery only	
T 8	Forced discharge	Pass		First cycle, fully discharged 10 cells	After 50 cycles, fully discharged 10 cells

*1 The test data may contain additional test result other than above table.

Lithium ion cell Specification

Item	Value/Description	Note
Watt-hour rating / Rated capacity	7.0 Wh / 1.88 Ah	Number of cells: 1
Nominal voltage	3.7 V	
Weight	max. 39 g	
Physical description	Prismatic cell	

Above test procedures are compliant to the following manual.

(Manual of Tests and Criteria ST/SG/AC.10/11/Rev.5A1, PartIII, sub-section 38.3)

Judgment for necessity of test items is carried out based on the latest rules, and it is not linked with the version actually tested.