

UN 38.3 Test Report

Lithium cell or battery test summary in accordance with
sub-section 38.3 of Manual of Tests and Criteria.

Test Report Number	UN-C41N2010-2-HAWJ
Customer Name	ASUS
Product Name	LI-ION BATTERY PACK
Model Name	C41N2010-2
Test specification	ST/SG/AC.10/11/Rev.8
UN38.3 Test Item	T.1, T.2, T.3, T.4, T.5, T.6, T.7, T.8 (Note that T.6 and T.8 are for Cell)
Test sample No	1~38
Test Date	2024/12/19 ~ 2025/1/14
Date of Test Report	2025/1/14
Product Manufacturer & Test Laboratory	Dynapack Electronic Technology (Suzhou) Co., Ltd
Manufacturer & Test Laboratory information	Address: No. 8 Hua-Gang Road, WuJiang Economical and Technological Development Zone, Suzhou city, JiangSu. PRC. Tel: 0086-051263408688 E-mail: Cathy.Xu@dynapack.com.cn ZIP: 215200 Website: http://www.dynapack.com.tw

Description of Battery	
Model Name	C41N2010-2
Battery Type	Small LI-ION BATTERY PACK
Pack Configuration	4 Series / 1 Parallel
Nominal Voltage	15.44 Vdc
Rated Capacity(mAh/Wh)	3524mAh / 56Wh
Mass	0.212 kg
Pack Dimension(mm)	228.0*66.0*7.5
Cell Brand	Highpower
Cell model	3263A3ACT

Performed Tests		Results
UN38.3 T1	Altitude simulation	☒ PASS ☐ FAIL
UN38.3 T2	Thermal test	☒ PASS ☐ FAIL
UN38.3 T3	Vibration	☒ PASS ☐ FAIL
UN38.3 T4	Shock	☒ PASS ☐ FAIL
UN38.3 T5	External short circuit	☒ PASS ☐ FAIL
UN38.3 T6	Crush	☒ PASS ☐ FAIL
UN38.3 T7	Overcharge	☒ PASS ☐ FAIL
UN38.3 T8	Forced discharge	☒ PASS ☐ FAIL
Reference to assembled battery testing requirements:		
☒ Not Applicable ☐ UN38.3.3(f) ☐ UN38.3.3(g)		

Prepared By :

Checked By :

Approved By :

Cathy.Xu

Engineer
Cathy.Xu

Sky.Jiang

Senior Engineer
Sky.Jiang

Michael.Cheng

Associate Vice President
Michael.Cheng

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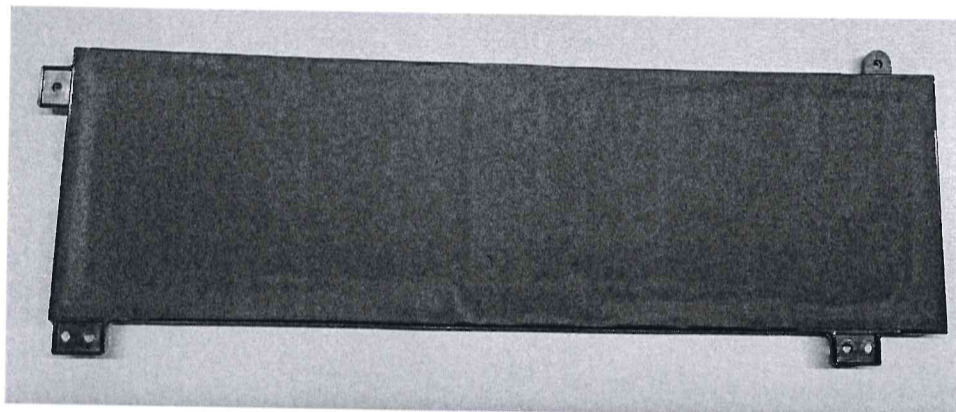
No. 8 Hua-Gang Road, Wujiang Economical and Technological Development
Zone, Suzhou city, JiangSu. PRC

1. Test Equipment

Inst. No.	Description	Series No	Function/Range
WJ6014	Learning Machine	D14106-2	20 V / 10 A
WJ6015	Chamber	6609K	-40~150°C
WJ9004	Learning Machine	D20131-7	20V / 15A
WJ9005	Chamber	MEA1504-010	0~100°C,10%~98%RH
WJ6103	Electronic Scales	0929016	0.2~600g,Accuracy 0.01g
WJ6108	3560 AC mΩMeter	051139050	0~5/50 V / 30mΩ-3kΩ
WJ6105	Vacuum Machine	GS55-221	-76~0cmHg
WJ6189	Thermal shock2	9811K	200°C ~-80°C
WJ6073	Vibration Machine	D1202031	5~2000Hz Level/5~1500Hz Vertical; Max. acceleration: 100gVertical;
WJ6188	Shock	M-15488	100G/10ms~5000G/0.2ms
WJ6115	Chamber	6514K	0-150°C /20%RH~98%RH
WJ6104	34970 data recorder	MY44039623	-100~+400°C
WJ4035	Digital Caliper	05565311	0~200mm
WJ6052	Crush	LG2975	0~20KN
WJ8037	34970 data recorder	MY44039446	-100~+400°C
WJ6106	POWER SUPPLY	006103176669002004	0~30V;0~18A
WJ6107	POWER SUPPLY	006103176670001002	0~30V;0~18A
WJ7006	34970 data recorder	MY44042480	-100~+400°C
WJ7008	POWER SUPPLY	006103156267001009	0~30V;0~18A
WJ7009	POWER SUPPLY	006103156273001007	0~30V;0~18A
WJ6197	DC E-LOAD	002022506570001023	3~120 V / 0~60 A
WJ7015	DC E-LOAD	123354F6A001	3~120 V / 0~60 A
WJ8001	Digital T-H-Meter	2045240566	0 to+50°C/10 to 95%HR
WJ8002	Digital T-H-Meter	2045240692	0 to+50°C/10 to 95%HR

2. Detail records as below :

2.1 Photograph



Rating: +15.44V=56Wh MODEL(型號/型号):C41N2010-2
 Questions?Please visit www.asus.com 4ICP4/63/103
 Rechargeable Li-Polymer Battery Pack 二次鋰電池組
 Capacity:3630mAh(Typical) / 3524mAh(Rated)

2.2 Test Data:

2.2.1 T.1 Altitude

Sample No.	Sample	OCV(V)		Voltage Residual (%)	Mass(g)		Mass Loss (%)	Result
	Status	Before	After		Before	After		
1	1CYC , Fully charge	17.436	17.420	99.91%	212.00	212.04	0.00%	PASS
2	1CYC , Fully charge	17.438	17.422	99.91%	209.38	209.43	0.00%	PASS
3	1CYC , Fully charge	17.430	17.413	99.90%	209.26	209.29	0.00%	PASS
4	1CYC , Fully charge	17.438	17.422	99.91%	209.54	209.50	0.02%	PASS
5	25CYC , Fully charge	17.418	17.399	99.89%	211.49	211.45	0.02%	PASS
6	25CYC , Fully charge	17.418	17.399	99.89%	210.13	210.16	0.00%	PASS
7	25CYC , Fully charge	17.435	17.419	99.91%	211.10	211.13	0.00%	PASS
8	25CYC , Fully charge	17.425	17.406	99.89%	211.91	211.87	0.02%	PASS
Temperature, °C		23.6			Humidity, %RH		42.1	

Criteria:

*Batteries meet requirement regard mass loss was less than (0.5% , $M < 1g$; 0.2%, $1g \leq M \leq 75g$; 0.1%, $M > 75g$) and voltage after testing is not less than 90% of its voltage immediately prior to this procedure.

*No leakage, No venting, No disassembly, No rupture and no fire.

2.2.2 T.2 Thermal shock

Sample No.	Sample	OCV(V)		Voltage Residual (%)	Mass(g)		Mass Loss (%)	Result
	Status	Before	After		Before	After		
1	1CYC , Fully charge	17.420	17.070	97.99%	212.04	212.09	0.00%	PASS
2	1CYC , Fully charge	17.422	17.067	97.96%	209.43	209.43	0.00%	PASS
3	1CYC , Fully charge	17.413	17.054	97.94%	209.29	209.28	0.00%	PASS
4	1CYC , Fully charge	17.422	17.075	98.01%	209.50	209.48	0.01%	PASS
5	25CYC , Fully charge	17.399	17.054	98.02%	211.45	211.42	0.01%	PASS
6	25CYC , Fully charge	17.399	17.042	97.95%	210.16	210.16	0.00%	PASS
7	25CYC , Fully charge	17.419	17.060	97.94%	211.13	211.10	0.01%	PASS
8	25CYC , Fully charge	17.406	17.047	97.94%	211.87	211.86	0.00%	PASS
Temperature, °C		19.5			Humidity, %RH		43.8	

Criteria:

*Batteries meet requirement regard mass loss was less than (0.5% , $M < 1g$; 0.2%, $1g \leq M \leq 75g$; 0.1%, $M > 75g$) and voltage after testing is not less than 90% of its voltage immediately prior to this procedure.

*No leakage, No venting, No disassembly, No rupture and no fire.

2.2.3 T.3 Vibration

Sample No.	Sample	OCV(V)	OCV(V)	Voltage Residual (%)	Mass(g)	Mass(g)	Mass Loss (%)	Result
	Status	Before	After		Before	After		
1	1CYC , Fully charge	17.070	17.043	99.84%	212.09	212.10	0.00%	PASS
2	1CYC , Fully charge	17.067	17.036	99.82%	209.43	209.40	0.01%	PASS
3	1CYC , Fully charge	17.054	17.030	99.86%	209.28	209.24	0.02%	PASS
4	1CYC , Fully charge	17.075	17.058	99.90%	209.48	209.46	0.01%	PASS
5	25CYC , Fully charge	17.054	17.030	99.86%	211.42	211.45	0.00%	PASS
6	25CYC , Fully charge	17.042	17.018	99.86%	210.16	210.16	0.00%	PASS
7	25CYC , Fully charge	17.060	17.043	99.90%	211.10	211.05	0.02%	PASS
8	25CYC , Fully charge	17.047	17.020	99.84%	211.86	211.84	0.01%	PASS
Temperature, °C		19.2			Humidity, %RH		41.8	

Criteria:

*Batteries meet requirement regard mass loss was less than (0.5% , $M < 1g$; 0.2%, $1g \leq M \leq 75g$; 0.1%, $M > 75g$) and voltage after testing is not less than 90% of its voltage immediately prior to this procedure.

*No leakage, No venting, No disassembly, No rupture and no fire.

2.2.4 T.4 shock

Sample No.	Sample	OCV(V)	OCV(V)	Voltage Residual (%)	Mass(g)	Mass(g)	Mass Loss (%)	Result
	Status	Before	After		Before	After		
1	1CYC , Fully charge	17.043	17.014	99.83%	212.10	212.09	0.00%	PASS
2	1CYC , Fully charge	17.036	17.012	99.86%	209.40	209.35	0.02%	PASS
3	1CYC , Fully charge	17.030	17.006	99.86%	209.24	209.23	0.00%	PASS
4	1CYC , Fully charge	17.058	17.032	99.85%	209.46	209.46	0.00%	PASS
5	25CYC , Fully charge	17.030	17.001	99.83%	211.45	211.46	0.00%	PASS
6	25CYC , Fully charge	17.018	17.001	99.90%	210.16	210.19	0.00%	PASS
7	25CYC , Fully charge	17.043	17.024	99.89%	211.05	211.06	0.00%	PASS
8	25CYC , Fully charge	17.020	17.000	99.88%	211.84	211.87	0.00%	PASS
Temperature, °C		18.5			Humidity, %RH		43.5	

Criteria:

*Batteries meet requirement regard mass loss was less than (0.5% , $M < 1g$; 0.2%, $1g \leq M \leq 75g$; 0.1%, $M > 75g$) and voltage after testing is not less than 90% of its voltage immediately prior to this procedure.

*No leakage, No venting, No disassembly, No rupture and no fire.

2.2.5 T.5 External Short circuit

Sample NO.	Sample Status	Max Battery Temperature(°C)	Result
1	1CYC , Fully charge	57.10	PASS
2	1CYC , Fully charge	56.75	PASS
3	1CYC , Fully charge	57.23	PASS
4	1CYC , Fully charge	57.10	PASS
5	25CYC , Fully charge	57.12	PASS
6	25CYC , Fully charge	57.27	PASS
7	25CYC , Fully charge	57.10	PASS
8	25CYC , Fully charge	56.96	PASS
Temperature, °C		17.4	Humidity, %RH
			40.8

Criteria:

*All Batteries can meet requirement subjected external temperature does not exceed170 °C.

*All Batteries no disassembly, no rupture and no fire during the test and within six hours of this test.

2.2.6 T.6 Crush

Sample NO.	Sample Status	Max Cell Temperature (°C)	Result
9	1CYC,50% Capacity	18.22	PASS
10	1CYC,50% Capacity	18.26	PASS
11	1CYC,50% Capacity	18.20	PASS
12	1CYC,50% Capacity	18.10	PASS
13	1CYC,50% Capacity	18.28	PASS
14	25CYC,50% Capacity	18.22	PASS
15	25CYC,50% Capacity	18.22	PASS
16	25CYC,50% Capacity	18.29	PASS
17	25CYC,50% Capacity	18.10	PASS
18	25CYC,50% Capacity	18.24	PASS
Temperature, °C		18.2	Humidity, %RH
			41.9

Criteria:

*All cells can meet requirement subjected external temperature does not exceed 170°C.

*All cells no disassembly and no fire during the test and within six hours of this test.

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2.2.7 T.7 Over Charge

Sample NO.	Sample Status	Result
1	1CYC, Fully charge	PASS
2	1CYC, Fully charge	PASS
3	1CYC, Fully charge	PASS
4	1CYC, Fully charge	PASS
5	25CYC, Fully charge	PASS
6	25CYC, Fully charge	PASS
7	25CYC, Fully charge	PASS
8	25CYC, Fully charge	PASS
Temperature, °C		17.9
Humidity, %RH		40.8

Criteria:

*All batteries can meet no disassembly and no fire during the test and within seven days after the test.

2.2.8 T.8 Forced Discharge

Sample NO.	Sample Status	Result	Sample NO.	Sample Status	Result
19	1CYC, Fully discharge	PASS	29	25CYC, Fully discharge	PASS
20	1CYC, Fully discharge	PASS	30	25CYC, Fully discharge	PASS
21	1CYC, Fully discharge	PASS	31	25CYC, Fully discharge	PASS
22	1CYC, Fully discharge	PASS	32	25CYC, Fully discharge	PASS
23	1CYC, Fully discharge	PASS	33	25CYC, Fully discharge	PASS
24	1CYC, Fully discharge	PASS	34	25CYC, Fully discharge	PASS
25	1CYC, Fully discharge	PASS	35	25CYC, Fully discharge	PASS
26	1CYC, Fully discharge	PASS	36	25CYC, Fully discharge	PASS
27	1CYC, Fully discharge	PASS	37	25CYC, Fully discharge	PASS
28	1CYC, Fully discharge	PASS	38	25CYC, Fully discharge	PASS
Temperature, °C		17.5	Humidity, %RH		41.5

Criteria:

*All cells no disassembly and no fire during the test and within seven days after the test.

--- End of Test report ---

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