Test Report issued under the responsibility of:

Prodigy Technology Consultant Co., Ltd.

Test Report No.:	P250409-06-XP-A0	Page 1 of 24
Client		
Name :	PortaPower Electronics Limited	
Address :	1F., No.79 , Ln.271 , Liancun Rd., Fengyuan Dist., Taichung City , 420071 , Taiwan (R.O.C)	
Phone :	886-4 2539 3829	
Email :	peishang.chung@portapower.com.tw	
Website :	https://www.portapower.com.tw	
Product Name :	Rechargeable Li-Fe battery pack	
Model Name :	UTS2A-0803, UTS2B-0803	
Testing laboratory		
Name :	Prodigy Technology Consultant Co., Ltd.	
Address :	No. 12, Gong 7th Rd., Linkou Dist., New Taipei City 24450, Taiwan, Chinese Taipei	
Phone :	886-2-2603-7288	
Emaill :	ptc.pe.cb@prodigy-tech.com.tw	
Website :	http://www.prodigy-tech.com.tw/	
Test specification Standard :	UN Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.8) Section 38.3	
Test Result :	The sample has passed the test items of UN38.3.	
Test Report Form No:	DTL-077-A20	
Test Report Form Originator:	Prodigy Technology Consultant Co., Ltd.	
Master TRF:	Dated 2025-06-16	
Prepared By :	Signature Tony Hsu Senior Engineer	2025-08-11 Date
Approved By :	Signature Frank Chang Project Leader Engineer	2025-08-11 Date

Other Aspects:

The completed test report includes the following documents:

■ 24 pages

General disclaimer:

■ The test results presented in this report relate only to the object tested.

■ Measurement uncertainty will not be included in the conformity assessment statement.

■ Without permission of Prodigy Technology Consultant Co., Ltd. this test report is not permitted to be duplicated in extracts.

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■ **This test report does not entitle to carry any safety mark on this or similar products.**

TEST REPORT UN38.3	
Report	
Date of sample accepted ..... :	2025-04-09
Date of test ..... :	2025-04-22 to 2025-08-01
Date of issue ..... :	2025-08-11
Battery Information：	
Battery Model ..... :	UTS2A-0803, UTS2B-0803
Composing Mode ..... :	8 Series, 3 Parallel
Electrochemistry System ..... :	Li-ion
Manufacturer of Cell ..... :	Qujing EVE Energy Co., Ltd
Cell Model ..... :	C33
Cell Capacity (mAh) ..... :	15200mAh
Use ..... :	--
Contained in equipment during transportation (Yes or No) ..... :	☐ Yes ☒ No
Transportation Mode	--
Inner package ..... :	--
Outer package ..... :	--
Interleave material ..... :	--
Gross weight (kg) ..... :	--
Dimensions (mm^3) ..... :	--
Battery number ..... :	--
Sample Parameter：	
Nominal Voltage (V) ..... :	24
Rated Capacity (mAh) ..... :	45000
Rated Power (Wh) ..... :	1080
Max. Charging Voltage (V) ..... :	28.6
Max. Charging Current (mA) ..... :	25000
Charging Current (mA) ..... :	10000
Discharge Cut-off Voltage (V) ..... :	20
Max. Discharging Current (mA) ..... :	40000
Dimensions (mm^3) ..... :	222 by 179 by 155 max.
Mass (kg) ..... :	8530 max.

Possible test case verdicts:	
test case does not apply to the test object .....:	N/A
test object does meet the requirement .....:	Pass (P)
test object does not meet the requirement .....:	Fail (F)

Model Differences

All models are identical except for model designation

Test Results:

Test item No.	Name of Test items	Sample No	Test Result	Conclusion	Remark
T1	Altitude simulation	C1-C4, D1-D4	Pass	See Appendix 1	
T2	Thermal test	C1-C4, D1-D4	Pass	See Appendix 2	
T3	Vibration	C1-C4, D1-D4	Pass	See Appendix 3	
T4	Shock	C1-C4, D1-D4	Pass	See Appendix 4	
T5	External short circuit	C1-C4, D1-D4	Pass	See Appendix 5	
T7	Overcharge	C5-C8, D5-D8	Pass	See Appendix 7	
Supplementary information: C1-C8: batteries for first cycle, fully charged state D1-D8: batteries for 25th cycle, fully charged state					

Additional information:
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

38.3.4 Procedure

Tests T.1 to T.5 shall be conducted in sequence on the same cell or battery. Tests T.6 and T.8 shall be conducted using not otherwise tested cells or batteries. Test T.7 may be conducted using undamaged batteries previously used in tests T.1 toT.5 for purposes of testing on cycled batteries.

38.3.4.1 Test T.1: Altitude simulation

38.3.4.1.1 Purpose

This test simulates air transport under low-pressure conditions.

38.3.4.1.2 Test procedure

Test cells and batteries shall be stored at a pressure of 11.6 kPa or less for at least six hours at ambient temperature (20 ± 5 °C).

38.3.4.1.3 Requirement

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.

38.3.4.2 Test T.2: Thermal test

38.3.4.2.1 Purpose

This test assesses cell and battery seal integrity and internal electrical connections. The test is conducted using rapid and extreme temperature changes.

38.3.4.2.2 Test procedure

Test cells and batteries are to be stored for at least six hours at a test temperature equal to 72 ± 2 °C, followed by storage for at least six hours at a test temperature equal to - 40 ± 2 °C. The maximum time interval between test temperature extremes is 30 minutes. This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20 ± 5 °C). For large cells and batteries the duration of exposure to the test temperature extremes should be at least 12 hours.

38.3.4.2.3 Requirement

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.

38.3.4.3 Test T.3: Vibration

38.3.4.3.1 Purpose

This test simulates vibration during transport.

38.3.4.3.2 Test procedure

Cells and batteries are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle shall be repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration must be perpendicular to the terminal face.

The logarithmic frequency sweep shall differ for cells and batteries with a gross mass of not more than 12 kg (cells and small batteries), and for batteries with a gross mass of more than 12 kg (large batteries).

For cells and small batteries: from 7 Hz a peak acceleration of 1 gn is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1 6 mm total excursion) and the frequency increased until a peak acceleration of 8 gn occurs (approximately 50 Hz). A peak acceleration of 8 gn is then maintained until the frequency is increased to 200 Hz.

For large batteries: from 7 Hz to a peak acceleration of 1 gn is maintained until 18 Hz is reached. The amplitude is then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 2 gn occurs (approximately 25 Hz). A peak acceleration of 2 gn is then maintained until the frequency is increased to 200 Hz.

38.3.4.3.3 Requirement

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire during the test and after the test and if the open circuit voltage of each test cell or battery directly after testing in its third perpendicular mounting position is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.

38.3.4.4 Test T.4: Shock

38.3.4.4.1 Purpose

This test simulates possible impacts during transport.

38.3.4.4.2 Test procedure

Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery.

Each cell shall be subjected to a half-sine shock of peak acceleration of 150 gn and pulse duration of 6 milliseconds. Alternatively, large cells may be subjected to a half-sine shock of peak acceleration of 50 gn and pulse duration of 11 milliseconds.
Each battery shall be subjected to a half-sine shock of peak acceleration depending on the mass of the battery. The pulse duration shall be 6 milliseconds for small batteries and 11 milliseconds for large batteries. The formulas below are provided to calculate the appropriate minimum peak accelerations.

Battery	Minimum peak acceleration	Pulse duration
Small batteries	150 g_n or result of formula $Acceleration(g_n) = \sqrt{\left(\frac{100850}{mass^a}\right)}$ whichever is smaller	6 ms
Large batteries	50 g_n or result of formula $Acceleration(g_n) = \sqrt{\left(\frac{30000}{mass^a}\right)}$ whichever is smaller	11 ms

[a] Mass is expressed in kilograms.

NOTE: IEC Standard 60068-2-27 (Fourth Edition 2008-02): Environmental testing-Part 2-27: Tests – Test Ea and guidance: Shock provides guidance on tolerance for acceleration and pulse duration.

The relationship between minimum peak acceleration and mass is illustrated in Figure 38.3.4.1 for small batteries and Figure 38.3.4.2 for large batteries.

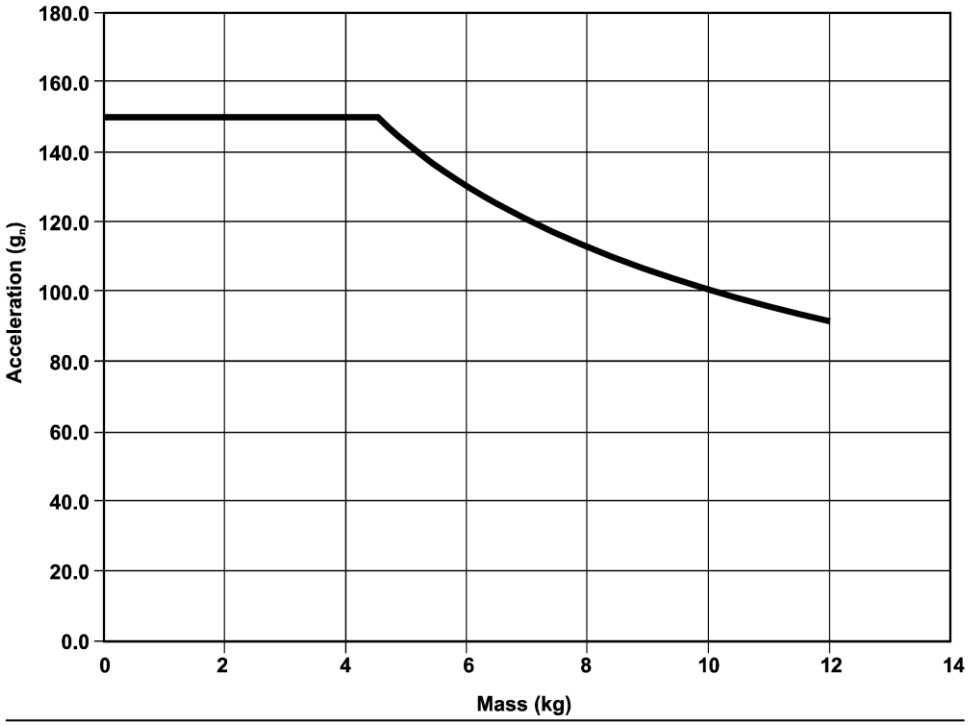


Figure 38.3.4.1: RELATION BETWEEN THE PEAK ACCELERATION AND THE MASS FOR SMALL BATTERIES (below 12.0 kg)

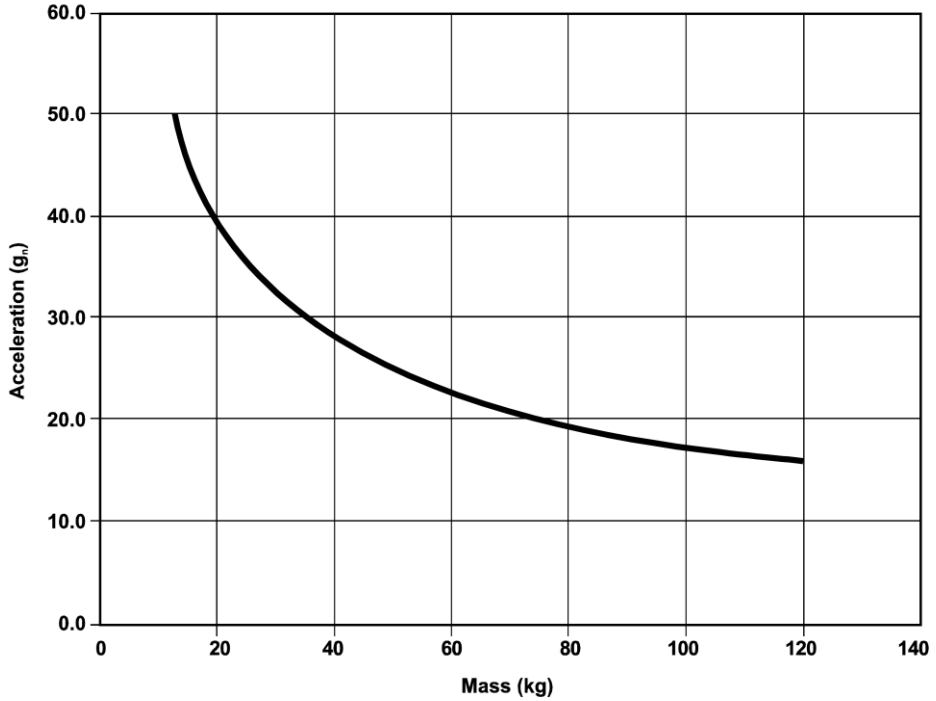


Figure 38.3.4.2: RELATION BETWEEN THE PEAK ACCELERATION AND THE MASS FOR LARGE BATTERIES (equal or above 12.0 kg)

Each cell or battery shall be subjected to three shocks in the positive direction and to three shocks in the negative direction in each of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks.

38.3.4.4.3 Requirement

Cells and batteries meet this requirement if there is no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test cell or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test cells and batteries at fully discharged states.

38.3.4.5 Test T.5: External short circuit

38.3.4.5.1 Purpose

This test simulates an external short circuit.

38.3.4.5.2 Test procedure

The cell or battery to be tested shall be heated for a period of time necessary to reach a homogeneous stabilized temperature of 57 ± 4 °C, measured on the external case. This period of time depends on the size and design of the cell or battery and should be assessed and documented. If this assessment is not feasible, the exposure time shall be at least 6 hours for small cells and small batteries, and 12 hours for large cells and large batteries. Then the cell or battery at 57 ± 4 °C shall be subjected to one short circuit condition with a total external resistance of less than 0.1 ohm.
This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to 57 ± 4 °C, or in the case of the large batteries, has decreased by half of the maximum temperature increase observed during the test and remains below that value.
The short circuit and cooling down phases shall be conducted at least at ambient temperature.

38.3.4.5.3 Requirement

Cells and batteries meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly, no rupture and no fire during the test and within six hours after the test.

38.3.4.6 Test T.6: Impact / Crush

38.3.4.6.1 Purpose

These tests simulate mechanical abuse from an impact or crush that may result in an internal short circuit.

38.3.4.6.2 Test procedure – Impact (applicable to cylindrical cells not less than 18.0 mm in diameter)

The sample cell or component cell is to be placed on a flat smooth surface. A 15.8 mm ± 0.1mm diameter, at least 6 cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar is to be placed across the centre of the sample. A 9.1 kg ± 0.1 kg mass is to be dropped from a height of 61 ± 2.5 cm at the intersection of the bar and sample in a controlled manner using a near frictionless, vertical sliding track or channel with minimal drag on the falling mass. The vertical track or channel used to guide the falling mass shall be oriented 90 degrees from the horizontal supporting surface.

The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8 mm ± 0.1mm diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact.

38.3.4.6.3 Test Procedure – Crush (applicable to prismatic, pouch, coin/button cells and cylindrical cells less than 18.0 mm in diameter)

A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1.5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached.

(a) The applied force reaches 13 kN ± 0.78 kN;

Example: The force shall be applied by a hydraulic ram with a 32 mm diameter piston until a pressure of 17 MPa is reached on the hydraulic ram.

(b) The voltage of the cell drops by at least 100mV; or

(c) The cell is deformed by 50% or more of its original thickness.

Once the maximum pressure has been obtained, the voltage drops by 100 mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released.

A prismatic or pouch cell shall be crushed by applying the force to the widest side. A button/coin cell shall be crushed by applying the force on its flat surfaces. For cylindrical cells, the crush force shall be applied perpendicular to the longitudinal axis.

Each test cell or component cell is to be subjected to one crush only. The test sample shall be observed for a further 6 h. The test shall be conducted using test cells or component cells that have not previously been subjected to other tests.

38.3.4.6.3 Requirement

Cells and component cells meet this requirement if their external temperature does not exceed 170 °C and there is no disassembly and no fire during the test and within six hours after this test.

38.3.4.7 Test T.7: Overcharge

38.3.4.7.1 Purpose

This test evaluates the ability of a rechargeable battery or a single cell rechargeable battery to withstand an overcharge condition.

38.3.4.7.2 Test procedure

The charge current shall be twice the manufacturer's recommended maximum continuous charge current. The minimum voltage of the test shall be as follows:

(a) when the manufacturer's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22V.

(b) when the manufacturer's recommended charge voltage is more than 18V, the minimum voltage of the test shall be 1.2 times the maximum charge voltage.

Tests are to be conducted at ambient temperature. The duration of the test shall be 24 hours.

38.3.4.7.3 Requirement

Rechargeable batteries meet this requirement if there is no disassembly and no fire during the test and within seven days after the test.

38.3.4.8 Test T.8: Forced discharge

38.3.4.8.1 Purpose

This test evaluates the ability of a primary or a rechargeable cell to withstand a forced discharge condition.

38.3.4.8.2 Test procedure

Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12V D.C. power supply at an initial current equal to the maximum discharge current specified by the manufacturer.

The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell. Each cell shall be forced discharged for a time interval (in hours) equal to its rated capacity divided by the initial test current (in ampere).

38.3.4.8.3 Requirement

Primary or rechargeable cells meet this requirement if there is no disassembly and no fire during the test and within seven days after the test.

Test sequence

38.3.3.1 Provisions 38.3.2.1 and 38.3.3 are summarized in the following table.

Table 38.3.2: Summary table of required tests for primary cells and batteries

Primary cells and batteries										
		T.1	T.2	T.3	T.4	T.5	T.6	T.7	T.8	Sum[c]
Cells not transported separately	undischarged state						5			20
	fully discharged state						5		10	
Cells	undischarged state	10					5			40
	fully discharged state	10					5		10	
Single cell batteries[a]	undischarged state	10					5			40
	fully discharged state	10					5		10	
Small batteries	undischarged state	4								8
	fully discharged state	4								
Large Batteries	undischarged state	4								8
	fully discharged state	4								
Batteries assembled with tested batteries ≤ 500 g Li	undischarged state			1						1
Batteries assembled with tested batteries > 500 g[b] Li										0

[a] *A single cell battery containing one tested cell does not require testing unless a change in cell design could result in the failure of any test.*

[b] *If the assembled battery is of a type that has been verified as preventing:*

(i) Overcharge;

(ii) Short circuits; and

(iii) Over discharge between the batteries.

[c] *The sum represents the number of tests required, not the number of cells or batteries tested.*

Table 38.3.3: Summary table of required tests for rechargeable cells and batteries

Rechargeable cells and batteries										
		T.1	T.2	T.3	T.4	T.5	T.6	T.7[a]	T.8	Sum[d]
Cells not transported separately from a battery	first cycle, 50% charged state						5			30
	25th cycle, 50% charged state						5			
	first cycle, fully discharged state								10	
	25th cycle, fully discharged state								10	
Cells	first cycle, fully charged state	5								40
	25th cycle, fully charged state	5								
	first cycle, 50% charged state						5			
	25th cycle, 50% charged state						5			
	first cycle, fully discharged state								10	
	25th cycle, fully discharged state								10	
Single cell batteries[b]	first cycle, fully charged state	5						4		48
	25th cycle, fully charged state	5								
	first cycle, 50% charged state						5			
	25th cycle, 50% charged state						5			
	25th cycle, fully charged state							4		
	first cycle, fully discharged state								10	
	25th cycle, fully discharged state								10	
Small batteries	first cycle, fully charged state	4						4		16
	25th cycle, fully charged state	4						4		
Large batteries	first cycle, fully charged state	2						2		8
	25th cycle, fully charged state	2						2		
Batteries assembled with tested batteries ≤ 6 200 Wh or ≤500 g Li	fully charged state	1						1		2
Batteries assembled with tested batteries > 6 200 Wh or or >500 g Li[c]										0

[a] *Batteries or single cell batteries not equipped with battery overcharge protection that are designed for use only as a component in another battery or in equipment, which affords such protection, are not subject to the requirements of this test;*

[b] *Except for the T.7 Overcharge test, a single cell battery containing one tested cell does not require testing unless a change in cell design could result in the failure of any test;*

[c] *If the assembled battery is of a type that has been verified as preventing:*

(i) Overcharge;

(ii) Short circuits; and

(iii) Over discharge between the batteries.

[d] *The sum represents the number of tests required, not the number of cells or batteries tested.*

Table 38.3.4: Summary table of required tests for sodium ion rechargeable cells and batteries

Rechargeable cells and batteries										
		T.1	T.2	T.3	T.4	T.5	T.6	T.7[a]	T.8	Sum[d]
Cells not transported separately from a battery	first cycle, 50 % charged state						5			10
	25th cycle, 50 % charged state						5			
Cells	first cycle, fully charged state	5					5			20
	25th cycle, fully charged state	5					5			
Single cell batteries[b]	first cycle, fully charged state	5					5	4		28
	25th cycle, fully charged state	5					5	4		
Small batteries	first cycle, fully charged state	4						4		16
	25th cycle, fully charged state	4						4		
Large batteries	first cycle, fully charged state	2						2		8
	25th cycle, fully charged state	2						2		
Batteries assembled with tested batteries ≤ 6 200 Wh	fully charged state			1				1		2
Batteries assembled with tested batteries > 6 200 Wh[c]										0

[a] *Batteries or single cell batteries not equipped with battery overcharge protection that are designed for use only as a component in another battery or in equipment, which affords such protection, are not subject to the requirements of this test;*

[b] *Except for the T.7 Overcharge test, a single cell battery containing one tested cell does not require testing unless a change in cell design could result in the failure of any test;*

[c] *If the assembled battery is of a type that has been verified as preventing:*

(i) Overcharge;

(ii) Short circuits; and

(iii) Over discharge between the batteries.

[d] *The sum represents the number of tests required, not the number of cells or batteries tested.*

Altitude simulation test (Appendix 1)

Test item No.	T1	Name of Test items	Altitude simulation Test

Sample No.	Before Test	After Test	Residual OCV	Before Test (M1)	After Test (M2)	Mass loss	Result after test
	OCV (V)	OCV (V)	(%)	Mass (g)	Mass (g)	(%)	
C1	27.59	27.40	99.31	8531.4	8531.0	0.005	P
C2	27.60	27.47	99.52	8501.2	8500.6	0.008	P
C3	27.61	27.52	99.67	8516.8	8516.4	0.005	P
C4	27.61	27.31	98.91	8504.1	8503.5	0.008	P
D1	27.60	27.16	98.40	8521.7	8521.3	0.005	P
D2	27.60	27.52	99.71	8516.7	8516.2	0.006	P
D3	27.59	27.25	98.76	8530.4	8530.0	0.005	P
D4	27.59	27.42	99.38	8519.0	8518.5	0.006	P

Note 1:
L-Leakage,
V-Venting,
D-Disassembly,
R-Rupture,
F-Fire,
P-No Leakage, No Venting, No Disassembly, No Rupture, No Fire.

Note 2: Mass loss limit

Mass *M* of cell or battery	Mass loss limit
$M < 1$ g	0.5%
1 g $\leq M \leq$ 75 g	0.2%
$M >$ 75 g	0.1%

Mass loss (%)= [(M1-M2)/M1]*100%

Thermal test (Appendix 2)

Test item No.	T2	Name of Test items	Thermal test				
Sample No.	Before Test	After Test	Residual OCV	Before Test (M1)	After Test (M2)	Mass loss	Result after test
	OCV (V)	OCV (V)	(%)	Mass (g)	Mass (g)	(%)	
C1	27.40	26.78	97.73	8531.0	8529.0	0.024	P
C2	27.47	26.87	97.81	8500.6	8498.6	0.024	P
C3	27.52	26.87	97.63	8516.4	8514.3	0.025	P
C4	27.31	26.77	98.02	8503.5	8501.8	0.020	P
D1	27.16	26.74	98.45	8521.3	8518.0	0.039	P
D2	27.52	26.91	97.78	8516.2	8513.8	0.029	P
D3	27.25	26.88	98.64	8530.0	8527.5	0.030	P
D4	27.42	26.86	97.95	8518.5	8516.9	0.019	P

Note 1:
L-Leakage,
V-Venting,
D-Disassembly,
R-Rupture,
F-Fire,
P-No Leakage, No Venting, No Disassembly, No Rupture, No Fire.

Note 2: Mass loss limit

Mass *M* of cell or battery	Mass loss limit
$M < 1$ g	0.5%
1 g $\leq M \leq$ 75 g	0.2%
$M >$ 75 g	0.1%

Mass loss (%)= [(M1-M2)/M1]*100%

Vibration test (Appendix 3)

Test item No.	T3	Name of Test items		Vibration Test			
Sample No.	Before Test	After Test	Residual OCV	Before Test (M1)	After Test (M2)	Mass loss	Result after test
	OCV (V)	OCV (V)	(%)	Mass (g)	Mass (g)	(%)	
C1	26.78	26.73	99.81	8529.0	8527.8	0.015	P
C2	26.87	26.81	99.77	8498.6	8497.6	0.012	P
C3	26.87	26.82	99.81	8514.3	8513.0	0.016	P
C4	26.77	26.74	99.88	8501.8	8500.9	0.011	P
D1	26.74	26.69	99.81	8518.0	8517.0	0.012	P
D2	26.91	26.87	99.85	8513.8	8513.0	0.010	P
D3	26.88	26.83	99.81	8527.5	8526.1	0.017	P
D4	26.86	26.82	99.85	8516.9	8515.7	0.015	P

Note 1:
L-Leakage,
V-Venting,
D-Disassembly,
R-Rupture,
F-Fire,
P-No Leakage, No Venting, No Disassembly, No Rupture, No Fire.

Note 2: Mass loss limit

Mass *M* of cell or battery	Mass loss limit
$M < 1$ g	0.5%
1 g $\leq M \leq$ 75 g	0.2%
$M >$ 75 g	0.1%

Mass loss (%)= [(M1-M2)/M1]*100%

Shock test (Appendix 4)

Test item No.	T4	Name of Test items	Shock Test

Sample No.	Before Test	After Test	Residual OCV	Before Test (M1)	After Test (M2)	Mass loss	Result after test
	OCV (V)	OCV (V)	(%)	Mass (g)	Mass (g)	(%)	
C1	26.73	26.73	100.00	8527.8	8527.8	0.000	P
C2	26.81	26.81	100.00	8497.6	8497.6	0.000	P
C3	26.82	26.81	99.96	8513.0	8513.0	0.000	P
C4	26.74	26.74	100.00	8500.9	8500.9	0.000	P
D1	26.69	26.68	99.96	8517.0	8517.0	0.000	P
D2	26.87	26.87	100.00	8513.0	8513.0	0.000	P
D3	26.83	26.83	100.00	8526.1	8526.1	0.000	P
D4	26.82	26.82	100.00	8515.7	8515.7	0.000	P

Note 1:
L-Leakage,
V-Venting,
D-Disassembly,
R-Rupture,
F-Fire,
P-No Leakage, No Venting, No Disassembly, No Rupture, No Fire.

Note 2: Mass loss limit

Mass *M* of cell or battery	Mass loss limit
$M < 1$ g	0.5%
1 g $\leq M \leq$ 75 g	0.2%
$M >$ 75 g	0.1%

Mass loss (%)= [(M1-M2)/M1]*100%

External short circuit test (Appendix 5)

Test item No.	**T5**	**Name of Test items**	**External short circuit Test**	
Sample No.	Test Ambient T (°C)	Resistance of Circuit (mΩ)	Max. External Temperature (°C)	Result after test
C1	57.5	81.3	58.4	P
C2	57.5	85.4	58.0	P
C3	57.5	83.7	58.2	P
C4	57.5	82.9	57.7	P
D1	57.5	86.5	58.1	P
D2	57.5	84.1	58.1	P
D3	57.5	83.3	58.1	P
D4	57.5	84.6	58.1	P

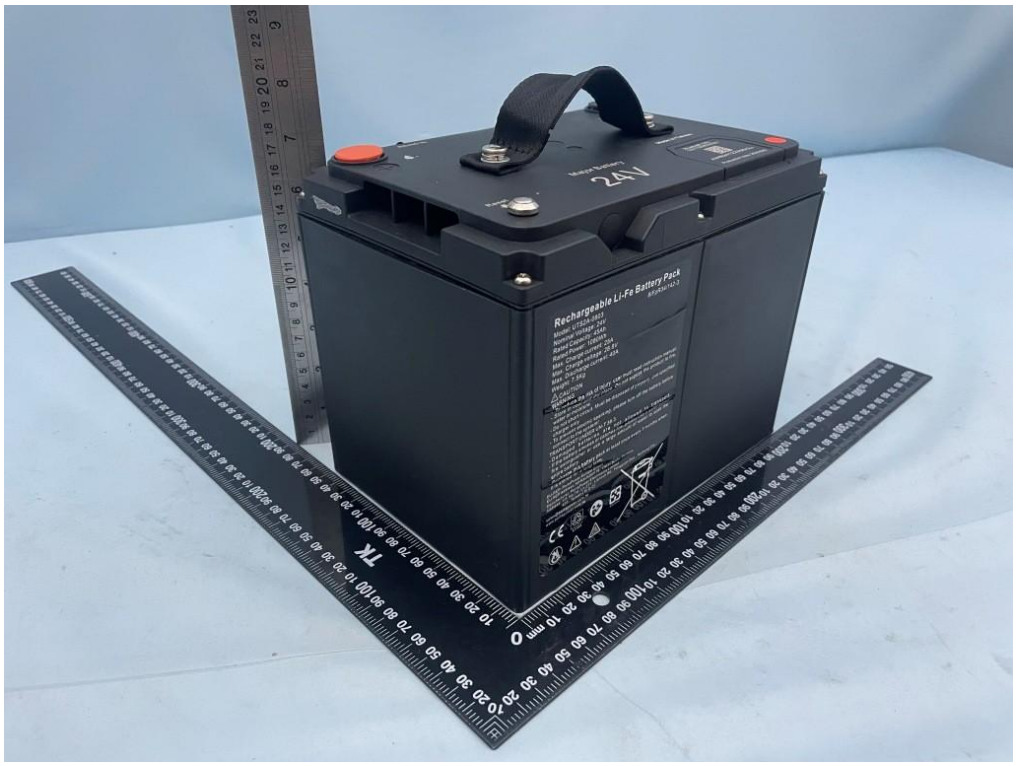
Note:
D-Disassembly,
R-Rupture,
F-Fire,
P- No Disassembly, No Rupture, No Fire.

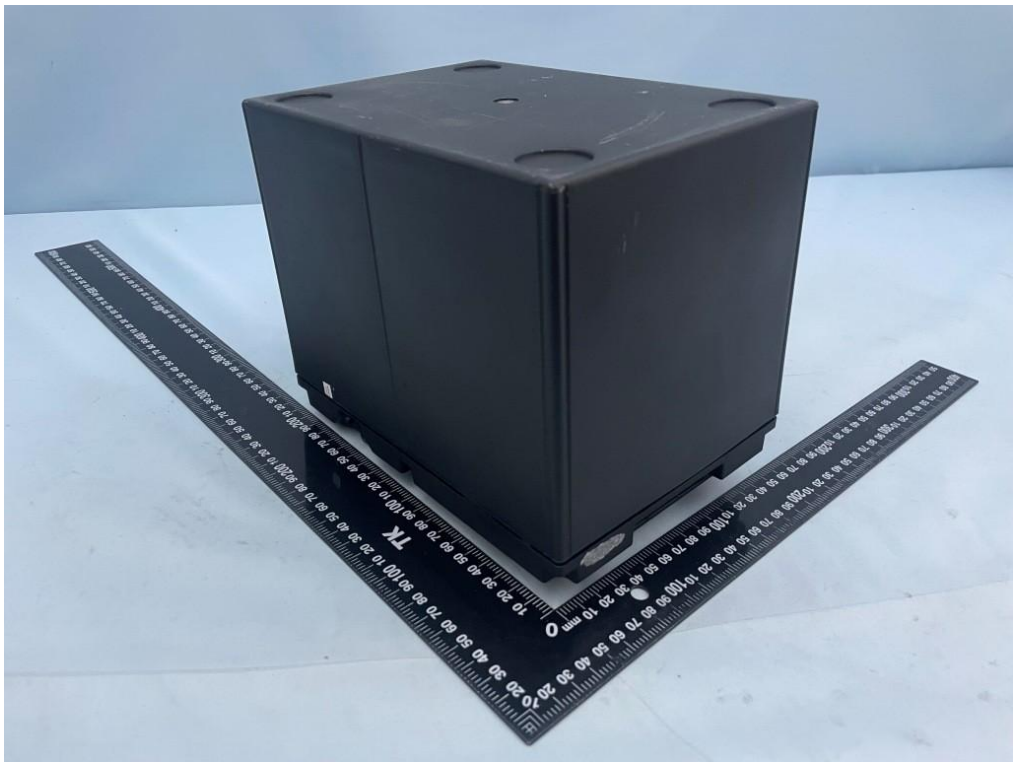
Overcharge test (Appendix 7)

Test item No.	T7	Name of Test items	Overcharge Test
Sample No.	Result after test		
C5	P		
C6	P		
C7	P		
C8	P		
D5	P		
D6	P		
D7	P		
D8	P		
Note: D-Disassembly, F-Fire, P- No Disassembly, No Fire.			

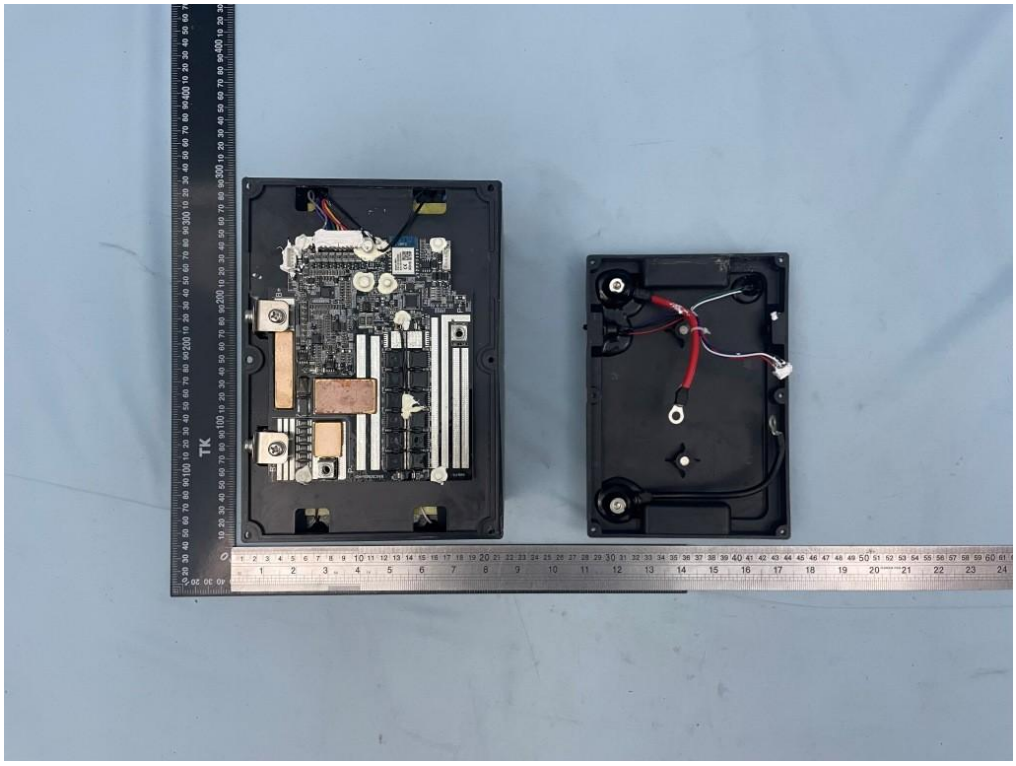
Photos:

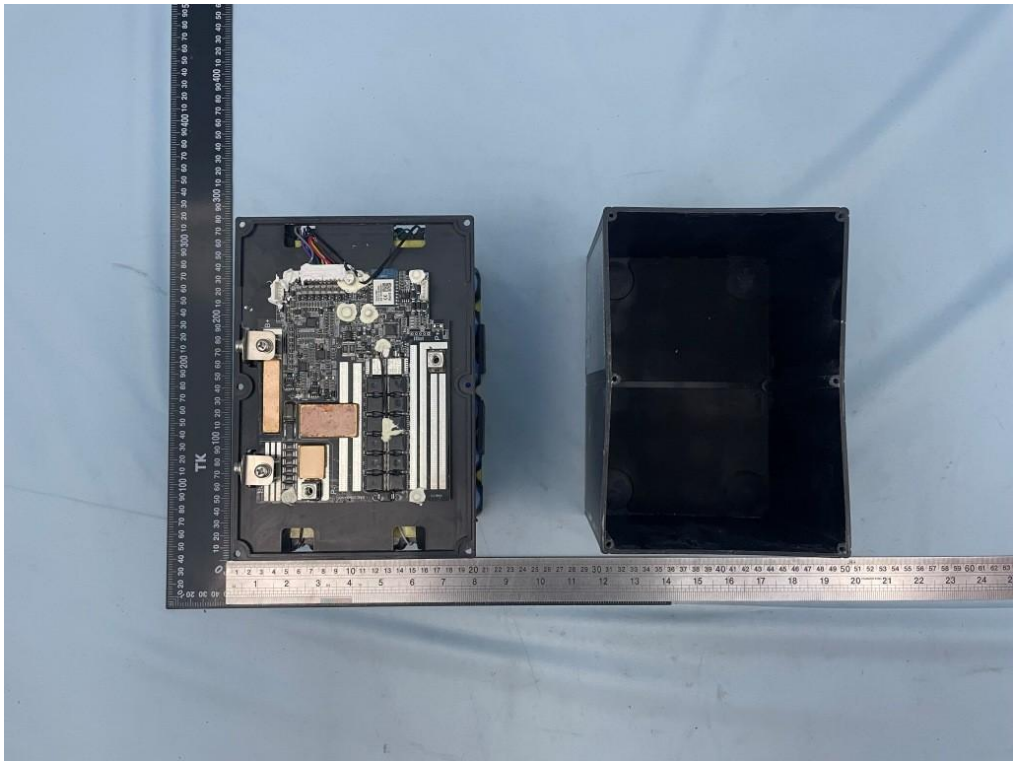
01. Overall view





02. Internal view





03. PWB board view