# 適合証明書
# Certificate of Conformity

| | |
|---|---|
| 製品名称:<br>Product/Material | Rechargeable Li-Polymer Battery Pack |
| モデル:<br>Model/Type | C41N2503 |
| 定格:<br>Rating | DC 15.6V, Typical: 3174mAh, 49.5Wh / Rated: 3082mAh |
| 試験規格:<br>Standard | 電気用品の技術上の基準を定める省令の解釈別表第十二<br>J62133-2 (2021) (JIS C 62133-2:2020)<br>Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) |
| 試験番号:<br>Test Report No. | XPKJ2F5G01PSE01-1 |
| 申請者:<br>Applicant | Simplo Technology Co., Ltd. |
| 住所:<br>Address | No. 471, Pa Teh Road, Sec. 2, Hu Kou Hsiang, Hsin Chu Hsien 303, Taiwan |



試験されたサンプル(試験番号 XPKJ2F5G01PSE01-1)は電気用品の技術上の基準を定める省令の解釈別表第十二：J62133-2 (2021) (JIS C 62133-2:2020)に適合していることを証明します。

This is to certify that the tested sample(s）(Report No.: XPKJ2F5G01PSE01-1) complies with: Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020).

PS E

発行者/Issued by: Hongbin Xu

発売日/Date of Issue: 2025-07-24

証明書番号: XPKJ2F5G01PSE01-1
Certificate No.

# 型式の区分
# Type classification

| 要素<br>Element | | 区分<br>Category |
|---|---|---|
| リチウムイオン蓄電池<br>Lithium ion battery | 単電池の形状<br>Figure of single cells | ☐ 円筒形のもの<br>Cylindrical<br>☐ 角形のもの<br>Angular<br>☒ その他のもの<br>Others |
| | 単電池の電解質の種類<br>Electrolyte type of single cells | ☐ 液体状のもの<br>Liquid state<br>☒ その他のもの<br>Others |
| | 単電池の上限充電電圧<br>Upper Limited charging voltage | ☐ 4.25V 以下のもの<br>4.25V below<br>☒ 4.25V を超えるもの<br>4.25V above |
| | 組電池の質量<br>Weight of battery packs | ☒ 7kg 以下のもの<br>7kg below<br>☐ 7kg を超えるもの<br>7kg above |
| | 電池ブロックの個数<br>Number of cell blocks | ☐ 1 個のもの<br>Single cell block<br>☒ 2 個以上のもの<br>Two or more cell blocks |
| | 過充電の保護機能<br>Mode of protective device | ☒ 組電池で制御するもの<br>A protective device in the battery pack<br>☐ 組電池搭載機器又は充電器で制御するもの<br>A protective device in the charger used with the battery packs |
| | 用途<br>Usage | ☒ 携帯機器用のもの<br>Portable devices<br>☐ 卓上機器用のもの<br>On-table devices<br>☐ その他のもの<br>Others |
| | 組電池の種類<br>Type of battery | ☒ はんだ付けその他の接合方法により、容易に取り外すことができない状態で機械器具に固定して用いられるものその他の特殊な構造のもの<br>Those designed to fix to appliances by soldering or other joining methods so that cannot be easily removed or those having other special construction<br>☐ その他のもの<br>Others |

中国认可
国际互认
检测
TESTING
CNAS L4065

Report No.:XPKJ2F5G01PSE01-1

# TEST REPORT

| | |
|---|---|
| **Product Name:** | Rechargeable Li-Polymer Battery Pack |
| **Model:** | C41N2503 |
| **Test Classification :** | Commission test |
| **Issue Date:** | 2025-07-24 |

| Tested by | Reviewed by | Approved by |
|---|---|---|
| Test Engineer | Audit Engineer | Approval Engineer |

**Guangzhou MCM Certification & Testing Co., Ltd.**

# General Information

| | |
|---|---|
| **Application Information:** | |
| **Applicant**……: | Simplo Technology Co., Ltd. |
| **Address**…… : | No. 471, Pa Teh Road, Sec. 2, Hu Kou Hsiang, Hsin Chu Hsien 303, Taiwan |
| **General Information:** | |
| **Product Name**……: | Rechargeable Li-Polymer Battery Pack |
| **Trade Mark**…… : | ASUS |
| **Model and/or type**…… : | C41N2503 |
| **Ratings**…… : | DC 15.6V, Typical: 3174mAh, 49.5Wh / Rated: 3082mAh |
| **Polymer cell electrolyte type**…… : | ☒ gel polymer ☐ solid polymer ☐ N/A |
| **Manufacturer**…… : | Simplo Technology Co., Ltd. |
| **Address**…… : | No. 471, Pa Teh Road, Sec. 2, Hu Kou Hsiang, Hsin Chu Hsien 303, Taiwan |
| **Factory**……: | 1. Simplo Technology (Chong Qing) Inc.<br>2. Huapu Technology(Changshu)INC.<br>3. Simplo Technology (Changshu) INC.<br>4. SIMPLO TECHNOLOGY (VIETNAM) CO., LTD.<br>5. SIMPLO TECHNOLOGY (VIETNAM) CO., LTD. |
| **Address**…… : | 1. No. 2 Zongbao Avenue, Shapingba District Chongqing, P.R. China<br>2. No.888, Dongnan Avenue, Changshu New & Hi-tech Industrial Development Zone, Changshu, Jiangsu, P.R. China<br>3. No.888,Dongnan Avenue, Changshu New & Hi-tech Industrial Development Zone,Changshu,Jiangsu, P.R. China<br>4. Lot CNSG-07, Van Trung Industrial Park, Van Trung Commune, Viet Yen District, Bac Giang Province, Vietnam<br>5. Lot CN-08, Hoa Phu Industrial Park, Hiep Hoa District, Bac Giang Province, Vietnam |
| **Testing Laboratory:** | |
| **Laboratory**……: | Guangzhou MCM Certification & Testing Co., Ltd. |
| **Address**…… : | Building 2 No. 45 Zhong Er Section of Shiguang Road, Zhongcun Street, Panyu District, Guangzhou City, Guangdong Province, China |
| **Testing Location**……: | Building 2 No. 45 Zhong Er Section of Shiguang Road, Zhongcun Street, Panyu District, Guangzhou City, Guangdong Province, China |
| **Test Specification:** | |
| **Standard Used**……: | Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) |
| **Deviation Description**: | N/A |
| **Test procedure**…… : | N/A |

**Label:** The artwork below may be only a draft.



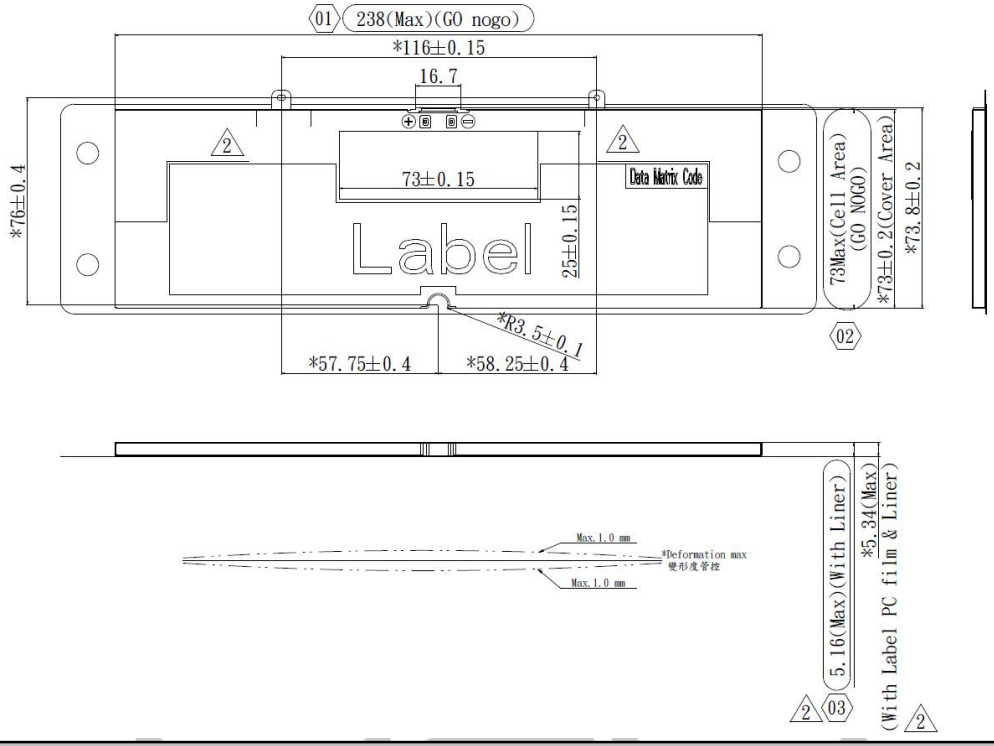
Remark:

"YYYY/MM/DD" represents the manufacture date, "YYYY" means the year, "MM" means the month, "DD" means the day.

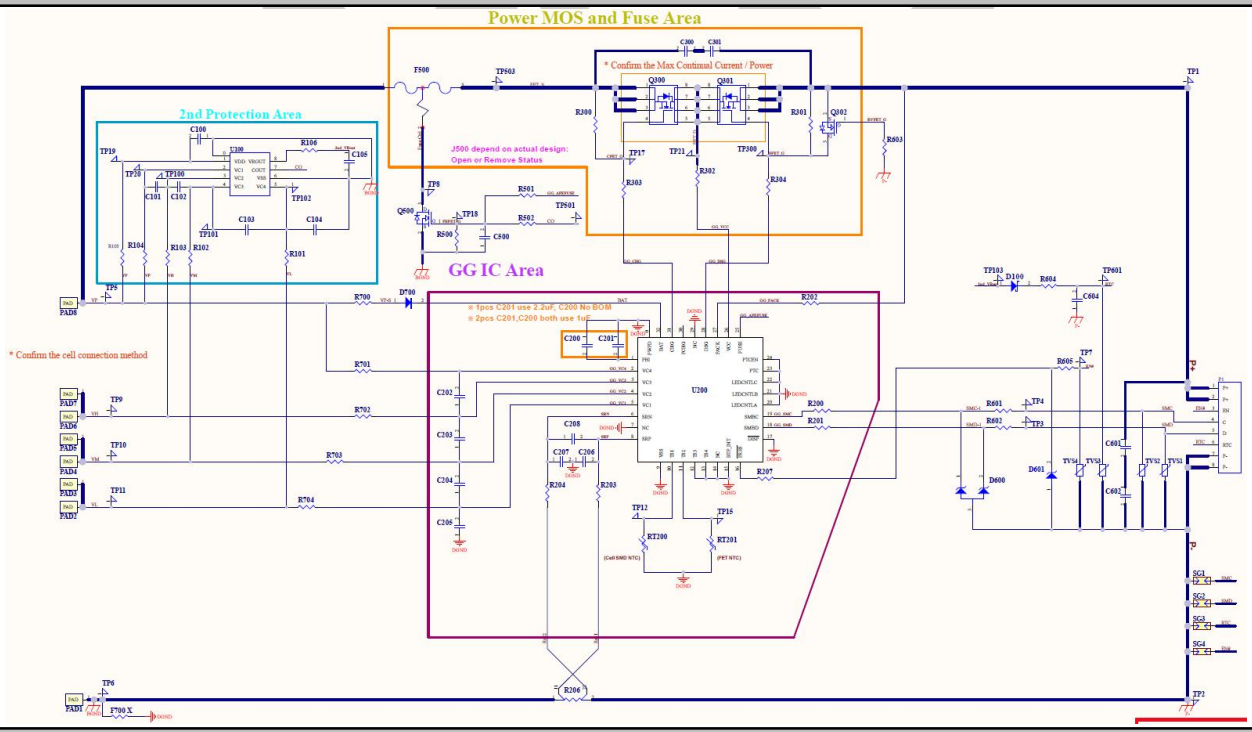
**Technical Parameters:** The following parameters are all provided by the applicant

| | Battery |
|---|---|
| **Model**: | C41N2503 |
| **Rated Capacity**: | 3082mAh |
| **Nominal Voltage**: | 15.6V |
| **Standard Charge Current**: | 3624mA |
| **Standard Discharge Current**: | 4530mA |
| **Maximum Charge Current**: | 3624mA |
| **Maximum Discharge Current**: | 4530mA |
| **Maximum Charge Voltage**: | 18.0V |
| **Upper Limited Charging Voltage**: | / |
| **Cut-Off Voltage**: | 12.0V |
| **Lower charge temperature**: | 0°C |
| **Upper charge temperature**: | 45°C |

**Construction: (unit: mm)**




**Circuit Diagram**




**Remark:**

Revision: Replace the original report XPKJ2F5G01PSE01, 2025-06-30 issued.

# Test Conclusion

| Clause | Test Item | Sample No. | | Test Result |
|---|---|---|---|---|
| | | Cell | Battery | |
| 7.2.1 | Continuous charging at constant voltage (Cells) | -- | N/A | N/A |
| 7.2.2 | Case stress at high ambient temperature (battery) | -- | B1#～B3# | P |
| 7.2.2A | Temperature Cycling | -- | B4#～B8# | P |
| 7.3.1 | External short-circuit (cell) | -- | N/A | N/A |
| 7.3.2 | External short-circuit (battery) | -- | B9#~B13#<br>B34#~B38# | P |
| 7.3.3 | Free fall | -- | B14#～B16# | P |
| 7.3.4 | Thermal abuse(cells) | -- | N/A | N/A |
| 7.3.5 | Crush(cells) | -- | N/A | N/A |
| 7.3.6 | Over-charging of battery | -- | B17#~B23#<br>B39#~B45# | P |
| 7.3.7 | Forced discharge (cells) | -- | N/A | N/A |
| 7.3.8.1 | Vibration | -- | B24#～B26# | P |
| 7.3.8.2 | Mechanical shock | -- | B27#～B29# | P |
| 7.3.8A | Low Pressure(cells) | -- | N/A | N/A |
| 7.3.8B | Cell Protection Against a High Charging Rate | -- | N/A | N/A |
| 7.3.8C | Free Fall of Appliance | -- | B30#～B32# | P |
| 7.3.8D | Function of The Overcharge Protection of Batteries | -- | B33#<br>B46# | P |
| 7.3.9 | Forced internal short circuit of (cells) | -- | N/A | N/A |
| D.2 | Internal resistance of coin cell | -- | N/A | N/A |

| | |
|---|---|
| Ambient Temperature: | 20±5°C |
| Receipt Date: | 2025-06-17 |
| Test Start Date: | 2025-06-17 |
| Test End Date: | 2025-06-27 |

**Test Conclusion:**

The samples submitted by Simplo Technology Co., Ltd. have passed the test items of Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020).

Seal:

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| **4** | **PARAMETER MEASUREMENT TOLERANCES** | | **P** |
| | Parameter measurement tolerances | | P |
| **5** | **GENERAL SAFETY CONSIDERATIONS** | | **P** |
| **5.1** | **General** | | P |
| | Cells and batteries shall be so designed and constructed that they are safe under conditions of both intended use and reasonably foreseeable misuse | | P |
| **5.2** | **Insulation and wiring** | | P |
| | 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 | No metal surface exists. | N/A |
| | Insulation resistance (MΩ): | N/A | — |
| | Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements | Complied. | P |
| | Orientation of wiring maintains adequate clearance and creepage distances between conductors | Complied. | P |
| | Mechanical integrity of internal connections accommodates reasonably foreseeable misuse | Complied. | P |
| **5.3** | **Venting** | | 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 | Venting mechanism exists on the narrow side of pouch cell. | P |
| | Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief | | N/A |
| **5.4** | **Temperature, voltage and current management** | | P |
| | Batteries are designed such that abnormal temperature rise conditions are prevented | Over voltage, over-discharge, Over charge current, Over temperature and short-circuit proof circuit used in this battery. See tests of clause 7. | P |
| | Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer. | See above. | P |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | 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. | The charging limits specified in the manufacturer's specification. | P |
| **5.5** | **Terminal contacts** | | P |
| | The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current. | Complied. | P |
| | External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance. | | P |
| | Terminal contacts are arranged to minimize the risk of short-circuit. | | P |
| **5.6** | **Assembly of cells into batteries** | | P |
| **5.6.1** | **General** | | P |
| | Each battery has 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. | Protective circuit equipped on battery. | P |
| | This protection may be provided external to the battery such as within the charger or the end devices. | | N/A |
| | If protection is external to the battery, the manufacturer of the battery provides this safety relevant information to the external device manufacturer for implementation. | | N/A |
| | If there is more than one battery housed in a single battery case, each battery has protective circuitry that can maintain the cells within their operating regions. | | N/A |
| | Manufacturers of cells specify current, voltage and temperature limits so that the battery manufacturer/designer may ensure proper design and assembly. | Current, voltage and temperature limits specified by cell manufacturer. | P |
| | 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. | | N/A |
| | Protective circuit components added as appropriate and consideration given to the end-device application. | To be evaluated in final system. | N/A |
| **5.6.2** | **Design recommendation** | | P |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | 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. | | 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. | Battery max charge voltage: 4.5V/cell, not exceed the upper limit of the charging voltage as specified by cell manufacturer. | P |
| | 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. | | N/A |
| | For batteries consisting of series-connected cells or cell blocks, nominal charge voltage not be counted as an overcharge protection. | | P |
| | 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. | | P |
| | It is recommended that the cells and cell blocks not discharged beyond the cell manufacturer's specified final voltage. | Final voltage of battery: 3.0V/cell, not exceed the final voltage specified by cell manufacturer. | P |
| | For batteries consisting of series-connected cells or cell blocks, cell balancing circuitry incorporated into the battery management system. | | N/A |
| **5.6.3** | **Mechanical protection for cells and components of batteries.** | | P |
| | 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. | Mechanical protection for cell connections and control circuits provided. | P |
| | 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. | Build-in batteries, mechanical protection for cells should be provided by end product. | P |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | The battery case and compartments housing cells designed to accommodate cell dimensional tolerances during charging and discharging as recommended by the cell manufacturer. | To be evaluated in final system. | 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. | | N/A |
| **5.6.3A** | **Prevent injuries caused by sharp corners** | | P |
| | The cell and battery shall not have any bumps or sharp angles, unless they are functionally necessary, or they may cause injury in intended use. | | P |
| | If the cell and battery housing, connectors, etc. need to be functionally related angles, structural protection measures should be taken to prevent users (consumers) from touching them. | | P |
| | However, in cases where the cell or battery with a particular structure should not be handled by the user (consumer), measures can be taken by agreement between the delivery parties. Check its applicability visually. | | P |
| **5.7** | **Quality plan** | | 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. | Complied.<br>Factory 1~4, ISO 9001: 2015 certificate provided.<br>Factory 5, quality plan provided. | P |
| **5.8** | **Battery safety components** | | N/A |
| | According annex F | | N/A |
| **6** | **TYPE TEST AND SAMPLE SIZE** | | 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. | | P |
| | Coin cells with resistance ≤ 3 Ω (measured according annex D) are tested according table 1. | | N/A |
| | Unless otherwise specified, tests are carried out in an ambient temperature of 20 °C ± 5 °C. | | P |
| | The safety analysis of 5.6.1 identify those components of the protection circuit that are critical for short-circuit, overcharge and over discharge protection. | | P |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | 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. | See clause 7.3.2. | P |
| **7** | **SPECIFIC REQUIREMENTS AND TESTS** | | P |
| 7.0A | The tests shall be carried out according to the number of cells and batteries specified in Table 1. The test temperature shall conform to the requirements of each test item in Clause 7. However, these tests can be performed under harsher conditions or environments to produce a more severe result. In addition, cells and batteries should be tested for each model. However, if part of the battery structure is changed and the results of the previous test are still available, this part of the test can be ignored. | | P |
| **7.1** | **Charging procedure for test purposes** | Complied. | P |
| **7.1.0A** | **General** | | P |
| | The first and second charging procedure are specified for the tests, however, these charging procedures are not applicable to 7.3.6,7.3.7,7.3.8B and 7.3.8D. | | P |
| **7.1.1** | **First procedure** | | 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. | | 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. | | P |
| | This charging procedure applies to 7.2.1, 7.2.2, 7.2.2A, 7.3.2, 7.3.3, 7.3.8.1, 7.3.8.2, 7.3.8A and 7.3.8C. | | P |
| **7.1.2** | **Second procedure** | | N/A |
| | After stabilization for 1 h ~ 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. Stabilization time within the specified time range should allow for thermal equilibrium to be reached where possible. | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | This charging procedure applies only to 7.3.1, 7.3.4, 7.3.5, and 7.3.9. | | N/A |
| **7.2** | **Intended use** | | P |
| **7.2.1** | **Continuous charging at constant voltage (cells).** | | N/A |
| | Fully charged secondary cells, according to the first procedure in 7.1.1, are subjected for 28 days to a charge at upper limit charging voltage and upper limit test temperature. After the test, visual inspection shall be performed. | | N/A |
| | Results: No fire. No explosion. No leakage: | | N/A |
| **7.2.2** | **Case stress at high ambient temperature (battery).** | Tested as client requested. | P |
| | Oven temperature (°C): | 70°C | — |
| | Results: No physical distortion of the battery case resulting in exposure of internal protective components and cells. | No physical distortion of the battery case. | P |
| **7.2.2A** | **Temperature Cycling** | Tested complied. | P |
| | Charged cells or batteries shall be charged to a fully charged at a charge temperature of 20 ± 5°C | | P |
| | Step 1: Leave the charged cells or batteries at 75 ± 2°C for four hours. | | P |
| | Step 2: Change the temperature to 20 ± 5°C within 30 minutes and left the equipment for at least two hours | | P |
| | Step 3: Change the temperature to – (minus) 20 ± 2°C within 30 minutes and the equipment shall be left for four hours. | | P |
| | Step 4: Change the temperature to 20 ± 5°C within 30 minutes and left the equipment for at least two hours. | | P |
| | Step 5: Steps 1 to 4 repeat another four times. | | P |
| | Step 6: Store the charged cells at 20 ± 5°C for seven days, and then conduct a visual inspection. | | P |
| | Results: No fire. No explode. No leakage: | (See appended table 7.2.2A) | P |
| **7.3** | **Reasonably foreseeable misuse** | | P |
| **7.3.1** | **External short-circuit (cell)** | | N/A |
| | The cells were tested until one of the following occurred: | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | - 24 hours elapsed; or | | N/A |
| | - The case temperature declined by 20 % of the maximum temperature rise | | N/A |
| | Results: No fire. No explosion: | | N/A |
| **7.3.2** | **External short-circuit (battery)** | Tested complied. | P |
| | The batteries were tested until one of the following occurred: | | P |
| | - 24 hours elapsed; or | | P |
| | - The case temperature declined by 20 % of the maximum temperature rise. | | 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. | | 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. | Single fault conducted on three samples. | P |
| | A single fault applies to protective component parts such as MOSFET, fuse, thermostat or positive temperature coefficient (PTC) thermistor. | Single fault applies on MOSFET Q301, Fuse F500 and Resistor R206. | P |
| | Results: No fire. No explosion: | (See appended table 7.3.2) | P |
| **7.3.3** | **Free fall** | Tested complied. | P |
| | Results: No fire. No explosion | No fire. No explosion. | P |
| **7.3.4** | **Thermal abuse (cells)** | | N/A |
| | Oven temperature (°C): | | N/A |
| | Results: No fire. No explosion | | N/A |
| **7.3.5** | **Crush (cells)** | | N/A |
| | The crushing force was released upon: | | N/A |
| | - The maximum force of 13 kN ± 0.78 kN has been applied; or | | N/A |
| | - An abrupt voltage drop of one-third of the original voltage has been obtained. | | N/A |
| | Results: No fire. No explosion | | N/A |
| **7.3.6** | **Over-charging of battery** | Tested complied. | P |
| | The supply voltage which is: | | P |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | - 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. | | N/A |
| | - 1.2 times the upper limit charging voltage resented in Table A.1 per cell for series connected multi-cell batteries, and | 21.6V applied. | P |
| | - Sufficient to maintain a current of 2.0 It A throughout the duration of the test or until the supply voltage is reached. | | P |
| | Test was continued until the temperature of the outer casing: | | P |
| | - Reached steady state conditions (less than 10 °C change in 30-minute period); or | | N/A |
| | - Returned to ambient | | P |
| | Results: No fire. No explosion: | (See appended table 7.3.6) | P |
| **7.3.7** | **Forced discharge (cells)** | | N/A |
| | 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. | | N/A |
| | If the discharge voltage does not reach the negative value of upper limit charging voltage within the testing duration, the test is terminated at the end of the testing duration. | | N/A |
| | Results: No fire. No explosion: | | N/A |
| **7.3.8** | **Mechanical tests (batteries)** | | P |
| **7.3.8.1** | **Vibration** | Tested complied. | P |
| | Results: No fire. No explosion. No leak: | (See appended table 7.3.8.1) | P |
| **7.3.8.2** | **Mechanical shock** | Tested complied. | P |
| | Results: No fire. No explosion. No leak: | (See appended table 7.3.8.2) | P |
| **7.3.8A** | **Low Pressure (cell)** | | N/A |
| | A charged cell shall be placed in a vacuum chamber, the chamber shall be closed, and then the chamber shall be gradually reduced to a pressure equal to or less than 11.6kPa. After being kept in that pressure of the value in the vacuum chamber for six hours. | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | Results: No fire. No explosion. No leak: | | N/A |
| **7.3.8B** | **Cell Protection Against a High Charging Rate** | | N/A |
| | Charged at a current three times the designed charging current, thereby fully charging it, or when a protective device used in the equipment or battery cuts off the charge current. | | N/A |
| | Results: No fire. No explosion: | | N/A |
| **7.3.8C** | **Free Fall of Appliance** | | P |
| | At an ambient temperature of 20 ± 5°C, according to the appliance specified in the left field of JIS C 6950-1 or JIS C 6065, the charged battery shall be installed in appliance to be used, and shall be dropped once onto a concrete floor or iron plate in a direction considered to most likely affect the battery in a negative manner. | | P |
| | However, this does not apply to portable appliance including battery weighing more than 7 kg or desktop appliance (excluding for appliance that may be carried around) weighing more than 5 kg including battery. | | N/A |
| | The charged batteries shall not undergo short-circuiting | | P |
| **7.3.8D** | **Function of The Overcharge Protection of Batteries** | | P |
| | a) For batteries made of a one cell block, the voltage applied to the cell block during charging shall be measured. | | N/A |
| | b)For batteries consisting of a series of two pieces or more of cell blocks, it shall be charged while measuring the voltage of each cell block and at the same time, one cell block shall forcibly be discharged and the voltages of the other cell blocks shall gradually be measured. | | P |
| | c)For batteries consisting of a series of connection of two pieces or more of cell blocks, a voltage exceeding the upper limited charging voltage specified in Annex Table 1-2 shall be applied to the cell block while measuring the voltage of each cell block. When the charging stops, the voltage shall be measured. | | N/A |
| | The cell block in the battery shall not exceed the upper limited charging voltage | (See appended table 7.3.8D) | P |
| **7.3.9** | **Design evaluation – Forced internal short-circuit (cells).** | | N/A |
| | The cells complied with national requirement for: | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | The pressing was stopped upon: | | N/A |
| | - A voltage drop of 50 mV has been detected; or | | N/A |
| | - The pressing force of 800 N (cylindrical cells) or 400 N (prismatic cells) has been reached. | | N/A |
| | Results: No fire: | | N/A |
| **8** | **INFORMATION FOR SAFETY** | | P |
| **8.1** | **General** | | P |
| | Manufacturers of secondary cells ensure that information is provided about current, voltage and temperature limits of their products. | | N/A |
| | 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. | Information for safety mentioned in manufacturer's specifications. | P |
| | Systems analyses performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product. | | N/A |
| | As appropriate, any information relating to hazard avoidance resulting from a system analysis provided to the end user. | | N/A |
| | Do not allow children to replace batteries without adult supervision. | | P |
| **8.2** | **Small cell and battery safety information** | Not small battery. | N/A |
| | The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them: | | N/A |
| | - Keep small cells and batteries which are considered swallowable out of the reach of children. | | N/A |
| | - Swallowing may lead to burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion. | | N/A |
| | - In case of ingestion of a cell or battery, seek medical assistance promptly. | | N/A |
| **9** | **MARKING** | | P |
| **9.1** | **Cell marking** | The final product is battery | N/A |
| | Cells marked as specified in JIS C 8711, except coin cells. | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | Coin cells whose external surface area is too small to accommodate the markings on the cells show the designation and polarity. | | 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. | | N/A |
| **9.2** | **Battery marking** | | P |
| | Batteries marked as specified in JIS C 8711, except for coin batteries. | See marking plate on page 3. | P |
| | Coin batteries whose external surface area is too small to accommodate the markings on the batteries show the designation and polarity | | N/A |
| | Batteries are marked with an appropriate caution statement | | P |
| | - Terminals have clear polarity marking on the external surface of the battery, or | | P |
| | - Not be marked with polarity markings if the design of the external connector prevents reverse polarity connections | Special designed connector used, also the polarity marked on the surface of the battery. | N/A |
| **9.3** | **Caution for ingestion of small cells and batteries** | | 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. | | N/A |
| | When small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion given on the immediate package. | | N/A |
| **9.4** | **Other information** | | P |
| | Storage and disposal instructions. | Information for disposal instructions mentioned in manufacturer's specifications. | P |
| | Recommended charging instructions. | | P |
| **10** | **PACKAGING AND TRANSPORT** | | P |
| | Packaging for coin cells not small enough to fit within the limits of the ingestion gauge of Figure 3. | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| | 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. | | P |
| **ANNEX A** | **CHARGING AND DISCHARGING RANGE OF SECONDARY LITHIUM ION CELLS FOR SAFE USE** | | **N/A** |
| **A.1** | **General** | | N/A |
| **A.2** | **Safety of lithium ion secondary battery** | | N/A |
| **A.3** | **Consideration on charging voltage** | | N/A |
| A.3.1 | General | | N/A |
| A.3.2 | Upper limit charging voltage. | | N/A |
| A.3.2.1 | General | | N/A |
| A.3.2.2 | Explanation of safety viewpoint. | | N/A |
| A.3.2.3 | Safety requirements, when different upper limit charging voltage is applied. | | N/A |
| **A.4** | **Consideration of temperature and charging current** | | N/A |
| A.4.1 | General | | N/A |
| A.4.2 | Recommended temperature range. | | N/A |
| A.4.2.1 | General | | N/A |
| A.4.2.2 | Safety consideration when a different recommended temperature range is applied. | | N/A |
| A.4.3 | High temperature range | | N/A |
| A.4.3.1 | General | | N/A |
| A.4.3.2 | Explanation of safety viewpoint. | | N/A |
| A.4.3.3 | Safety considerations when specifying charging conditions in the high temperature range. | | N/A |
| A.4.3.4 | Safety considerations when specifying a new upper limit in the high temperature range. | | N/A |
| A.4.4 | Low temperature range | | N/A |
| A.4.4.1 | General | | N/A |
| A.4.4.2 | Explanation of safety viewpoint. | | N/A |
| A.4.4.3 | Safety considerations, when specifying charging conditions in the low temperature range. | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| A.4.4.4 | Safety considerations when specifying a new lower limit in the low temperature range. | | N/A |
| A.4.5 | Scope of the application of charging current. | | N/A |
| A.4.6 | Consideration of discharge. | | N/A |
| A.4.6.1 | General | | N/A |
| A.4.6.2 | Final discharge voltage and explanation of safety viewpoint. | | N/A |
| A.4.6.3 | Discharge current and temperature range. | | N/A |
| A.4.6.4 | Scope of application of the discharging current. | | N/A |
| **A.5** | **Sample preparation.** | | N/A |
| A.5.1 | General | | N/A |
| A.5.2 | Insertion procedure for nickel particle to generate internal short. | | N/A |
| A.5.3 | Disassembly of charged cell. | | N/A |
| A.5.4 | Shape of nickel particle. | | N/A |
| A.5.5 | Insertion of nickel particle in cylindrical cell. | | N/A |
| A.5.5.1 | Insertion of nickel particle in winding core. | | N/A |
| A.5.5.2 | Marking the position of the nickel particle on both ends of the winding core of the separator. | | N/A |
| A.5.6 | Insertion of nickel particle in prismatic cell. | | N/A |
| **A.6** | **Experimental procedure of the forced internal short-circuit test** | | N/A |
| A.6.1 | Material and tools for preparation of nickel particle. | | N/A |
| A.6.2 | Example of a nickel particle preparation procedure. | | N/A |
| A.6.3 | Positioning (or placement) of a nickel particle. | | N/A |
| A.6.4 | Damaged separator precaution. | | N/A |
| A.6.5 | Caution for rewinding separator and electrode. | | N/A |
| A.6.6 | Insulation film for preventing short-circuit. | | N/A |
| A.6.7 | Caution when disassembling a cell. | | N/A |
| A.6.8 | Protective equipment for safety. | | N/A |
| A.6.9 | Caution in the case of fire during disassembling. | | N/A |

| Interpretation for METI Ordinance of Technical Requirements, Appendix 12, J62133-2 (2021) (JIS C 62133-2:2020) | | | |
|---|---|---|---|
| **Clause** | **Requirement +Test** | **Result - Remark** | **Verdict** |
| A.6.10 | Caution for the disassembling process and pressing the electrode core. | | N/A |
| A.6.11 | Recommended specifications for the pressing device. | | N/A |
| **ANNEX B** | **RECOMMENDATIONS TO EQUIPMENT MANUFACTURERS AND BATTERY ASSEMBLERS** | | **N/A** |
| **ANNEX C** | **RECOMMENDATIONS TO THE END-USERS** | | **N/A** |
| **ANNEX D** | **MEASUREMENT OF THE INTERNAL AC RESISTANCE FOR COIN CELLS** | | **N/A** |
| **D.1** | **General** | | **N/A** |
| **D.2** | **Method** | | **N/A** |
| | A sample size of three coin cells is required for this measurement: | | 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. | | N/A |
| | Coin cells with an internal resistance greater than 3 Ω require no further testing | | N/A |
| **ANNEX E** | **PACKAGING AND TRANSPORT** | | **N/A** |
| **ANNEX F** | **COMPONENT STANDARDS REFERENCES** | | **N/A** |

| | TABLE: Critical components information | | | | P |
|---|---|---|---|---|---|
| **Object / part No.** | **Manufacturer/ trademark** | **Type / model** | **Technical data** | **Standard** | **Mark(s) of conformity[1)]** |
| Cell | Dongguan Amperex Technology Limited | 4236A5 | 3.9V, 3082mAh | -- | -- |
| Fuse (F500) | DEXERIALS CORP | SFJ-1412W | 36Vdc, 12A | UL 248-1<br>UL 248-14 | UL E167588 |
| Fuse (F500) (Alternative) | SCHOTT Japan Corporation | D6SC4-12 | 36Vdc, 12A | UL 248-1<br>UL 248-14 | UL E357922 |
| MOSFET (Q300, Q301) | Sinopower | SM3421NSQAC-TRG | 30Vdc, 14.3A | -- | Tested with appliance |
| MOSFET (Q300, Q301) (Alternative) | AOS | AON7422G | 30Vdc, 25A | -- | Tested with appliance |
| IC (U200) | TI | BQ40Z50RSMR | Supply Voltage: -0.3V to 30V | -- | Tested with appliance |
| MOSFET (Q500) | Sinopower | SM2406NSANC-TRG | 30V | -- | Tested with appliance |
| MOSFET (Q500) (Alternative) | PANJIT | PJA3422 | 30V | -- | Tested with appliance |
| Resistor (R206) | TFT | MPC1206QR003FS-T5 | 3 m ohm, 1W | -- | Tested with appliance |
| Resistor (R206) (Alternative) | Interchangeable | Interchangeable | 3mohm, 1W | -- | Tested with appliance |
| PCB | NEW-HEART TECHNOLOGY CO LTD | 3M2 | V-0, 130°C | UL 94<br>UL 796 | UL E206991 |
| PCB (Alternative) | Interchangeable | Interchangeable | V-0, 130°C | UL 94<br>UL 796 | UL Approval |
| Connector | TARNG YU ENTERPRISE CO LTD | TU1504W | V-0 | UL 94<br>UL 1977 | UL E191023 |
| Connector (Alternative) | Interchangeable | Interchangeable | V-0 | UL 94<br>UL 1977 | UL Approval |
| Plastic cover | YEUN YIH ENTERPRISE CO LTD | C500-(+) | V-0, 80°C | UL 94<br>UL 746C | UL E474885 |
| Plastic cover (Alternative) | Interchangeable | Interchangeable | V-0, 80°C, or better | UL 94<br>UL 746C | UL Approval |
| Supplementary information:<br>[1)] Provided evidence ensures the agreed level of compliance. | | | | | |

| 7.2.1 | TABLE: Continuous charging at constant voltage (cells) | | | N/A |
|---|---|---|---|---|
| **Sample No.** | **Upper limit charging voltage $V_c$, (Vdc)** | **Upper limit test temperature, (°C)** | **OCV before test (Vdc)** | **Results** |
| | | | | |
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| | | | | |
| **Supplementary information:** | | | | |

| 7.2.2A | TABLE: Temperature Cycling | P |
|---|---|---|
| **Sample No.** | **OCV at Start of Test (Vdc)** | **Results** |
| B4# | 17.78 | P |
| B5# | 17.77 | P |
| B6# | 17.78 | P |
| B7# | 17.78 | P |
| B8# | 17.77 | P |
| **Supplementary information:**<br>No fire, No explosion, No leakage | | |

| 7.3.1 | TABLE: External short-circuit (cell) | | | | N/A |
|---|---|---|---|---|---|
| **Sample No.** | **Ambient T (°C)** | **OCV before test (Vdc)** | **Resistance of circuit (mΩ)** | **Maximum case temperature (°C)** | **Results** |
| **Samples charged at charging temperature upper limit (°C)** | | | | | |
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| **Samples charged at charging temperature lower limit (°C)** | | | | | |
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| **Supplementary information:** | | | | | |

| 7.3.2 | TABLE: External short-circuit (battery) | | | | | P |
|---|---|---|---|---|---|---|
| **Sample No.** | **Ambient T (°C)** | **OCV before test (Vdc)** | **Resistance of circuit (mΩ)** | **Maximum case temperature (°C)** | **Component single fault condition** | **Results** |
| B9#[1] | 22.5 | 17.77 | 83.3 | 23.8 | Fuse F500 S-C | P |
| B10#[1] | 22.5 | 17.77 | 84.1 | 23.7 | MOSFET Q301 S-C | P |
| B11#[1] | 22.5 | 17.78 | 85.6 | 23.7 | Resistor R206 S-C* | P |
| B12#[1] | 22.5 | 17.77 | 85.2 | 23.5 | -- | P |
| B13#[1] | 22.5 | 17.78 | 83.8 | 23.5 | -- | P |
| B34#[2] | 21.7 | 17.78 | 84.6 | 23.0 | Fuse F500 S-C | P |
| B35#[2] | 21.7 | 17.77 | 87.7 | 22.8 | MOSFET Q301 S-C | P |
| B36#[2] | 21.7 | 17.78 | 86.0 | 22.9 | Resistor R206 S-C* | P |
| B37#[2] | 21.7 | 17.78 | 85.9 | 22.6 | -- | P |
| B38#[2] | 21.7 | 17.77 | 84.5 | 22.7 | -- | P |

**Supplementary information:**

- No fire or explosion

Remark: *: Component single fault condition (Resistor R206) as client requested.

[1]: Tested with MOSFET (Q300, Q301, model: SM3421NSQAC-TRG), MOSFET (Q500, model: SM2406NSANC-TRG), FUSE (F500, model: SFJ-1412W), and other components.

[2]: Tested with MOSFET (Q300, Q301, model: AON7422G), MOSFET (Q500, model: PJA3422), FUSE (F500, model: D6SC4-12), and other components.

- S-C: short-circuit.

| 7.3.5 | TABLE: Crush (cells) | | | N/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 upper limit (°C)** | | | | |
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| **Samples charged at charging temperature lower limit (°C)** | | | | |
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| Supplementary information: |
|---|

| 7.3.6 | TABLE: Over-charging of battery | | | P |
|---|---|---|---|---|
| Constant charging current (A): | | 6.164/6.348 | | — |
| Supply voltage (Vdc): | | 21.6 | | — |
| **Sample No.** | **OCV before charging (Vdc)** | **Total charging time (minute)** | **Maximum outer case temperature (°C)** | **Results** |
| B17#[1] | 13.47 | 60 | 23.5 | P* |
| B18#[1] | 13.47 | 60 | 23.5 | P* |
| B19#[1] | 13.48 | 60 | 23.0 | P* |
| B20#[1] | 13.47 | 60 | 23.3 | P* |
| B21#[1] | 13.48 | 60 | 23.6 | P* |
| B22#[1] | 13.48 | 60 | 23.3 | P** |
| B23#[1] | 13.46 | 60 | 22.9 | P** |
| B39#[2] | 13.47 | 60 | 23.1 | P* |
| B40#[2] | 13.47 | 60 | 23.0 | P* |
| B41#[2] | 13.48 | 60 | 22.7 | P* |
| B42#[2] | 13.47 | 60 | 22.6 | P* |
| B43#[2] | 13.46 | 60 | 22.7 | P* |
| B44#[2] | 13.48 | 60 | 22.9 | P** |
| B45#[2] | 13.47 | 60 | 22.8 | P** |

**Supplementary information:**

- No fire or explosion

Remark:

* = Tested with 6.164A (Tested based on the rated capacity 3.082Ah)

** = Tested with 6.348A (Tested based on the typical capacity 3.174Ah as client requested.)

[1]: Tested with MOSFET (Q300, Q301, model: SM3421NSQAC-TRG), MOSFET (Q500, model: SM2406NSANC-TRG), FUSE (F500, model: SFJ-1412W), and other components.

[2]: Tested with MOSFET (Q300, Q301, model: AON7422G), MOSFET (Q500, model: PJA3422), FUSE (F500, model: D6SC4-12), and other components.

| 7.3.7 | TABLE: Forced discharge (cells) | | | N/A |
|---|---|---|---|---|
| **Sample No.** | **OCV before application of reverse charge (Vdc)** | **Measured reverse charge $I_t$ (A)** | **Lower limit discharge voltage (Vdc)** | **Results** |
| | | | | |
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| | | | | |
| **Supplementary information:** | | | | |

| 7.3.8.1 | TABLE: Vibration | | | | | P |
|---|---|---|---|---|---|---|
| **Sample No.** | **OCV before test (Vdc)** | **OCV after test (Vdc)** | **Mass before test (g)** | **Mass after test (g)** | **Mass Loss (%)** | **Results** |
| B24# | 17.78 | 17.77 | 166.293 | 166.292 | 0.001 | P |
| B25# | 17.78 | 17.78 | 167.081 | 167.080 | 0.001 | P |
| B26# | 17.78 | 17.77 | 166.934 | 166.933 | 0.001 | P |
| **Supplementary information:**<br>No fire, no explosion or no leakage. | | | | | | |

| 7.3.8.2 | TABLE: Mechanical shock | | | | | P |
|---|---|---|---|---|---|---|
| **Sample No.** | **OCV before test (Vdc)** | **OCV after test (Vdc)** | **Mass before test (g)** | **Mass after test (g)** | **Mass Loss (%)** | **Results** |
| B27# | 17.77 | 17.77 | 165.518 | 165.518 | 0.000 | P |
| B28# | 17.78 | 17.78 | 166.870 | 166.870 | 0.000 | P |
| B29# | 17.78 | 17.78 | 165.962 | 165.962 | 0.000 | P |
| **Supplementary information:**<br>No fire, no explosion or no leakage. | | | | | | |

| 7.3.8A | TABLE: Low Pressure | N/A |
|---|---|---|
| **Sample No.** | **OCV at Start of Test (Vdc)** | **Results** |
| | | |
| | | |
| | | |
| **Supplementary information:** | | |

| 7.3.8B | TABLE: Cell Protection Against a High Charging Rate | | | | N/A |
|---|---|---|---|---|---|
| **Sample No.** | **Test Temperature (°C)** | **OCV at Start of Test (Vdc)** | **Charging Current(A)** | **Charging Voltage(Vdc)** | **Results** |
| | | | | | |
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| **Supplementary information:** | | | | | |

| 7.3.8C | TABLE: Free Fall of Appliance | P |
|---|---|---|

| Sample No. | OCV at Start of Test (Vdc) | Results |
|---|---|---|
| B30# | 17.77 | P |
| B31# | 17.77 | P |
| B32# | 17.78 | P |

**Supplementary information:**
The charged batteries shall not undergo short-circuiting

| 7.3.8D | TABLE: Function of The Overcharge Protection of Batteries | | | | P |
|---|---|---|---|---|---|
| **Model of Cell Block** | **Test Method, a), b), c)** | **Applied Voltage, Vdc** | **OCV at start of test, Vdc** | **OCV at end of test, Vdc** | **Results** |
| B33#[1] | | | | | |
| Cell block 1 | b | 20 | 3.768 | 3.523 | P |
| Cell block 2 | | | 3.768 | 4.485 | P |
| Cell block 3 | | | 3.769 | 4.485 | P |
| Cell block 4 | | | 3.768 | 4.486 | P |
| B46#[2] | | | | | |
| Cell block 1 | b | 20 | 3.765 | 3.525 | P |
| Cell block 2 | | | 3.766 | 4.486 | P |
| Cell block 3 | | | 3.766 | 4.486 | P |
| Cell block 4 | | | 3.766 | 4.485 | P |

**Supplementary information:**
-Measured voltage did not exceed upper limit voltage
Remark:
[1]: Tested with MOSFET (Q300, Q301, model: SM3421NSQAC-TRG), MOSFET (Q500, model: SM2406NSANC-TRG), FUSE (F500, model: SFJ-1412W), and other components.
[2]: Tested with MOSFET (Q300, Q301, model: AON7422G), MOSFET (Q500, model: PJA3422), FUSE (F500, model: D6SC4-12), and other components.

| 7.3.9 | TABLE: Forced internal short circuit (cells) | | | | | N/A |
|---|---|---|---|---|---|---|
| **Sample No.** | **Chamber ambient, (°C)** | **OCV at start of test, (Vdc)** | **Particle location [1)]** | **Maximum applied pressure, (N)** | **Voltage drop, (mV)** | **Results** |
| **Samples charged at charging temperature upper limit (°C)** | | | | | | |
| | | | | | | |
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| **Samples charged at charging temperature lower limit (°C)** | | | | | | |
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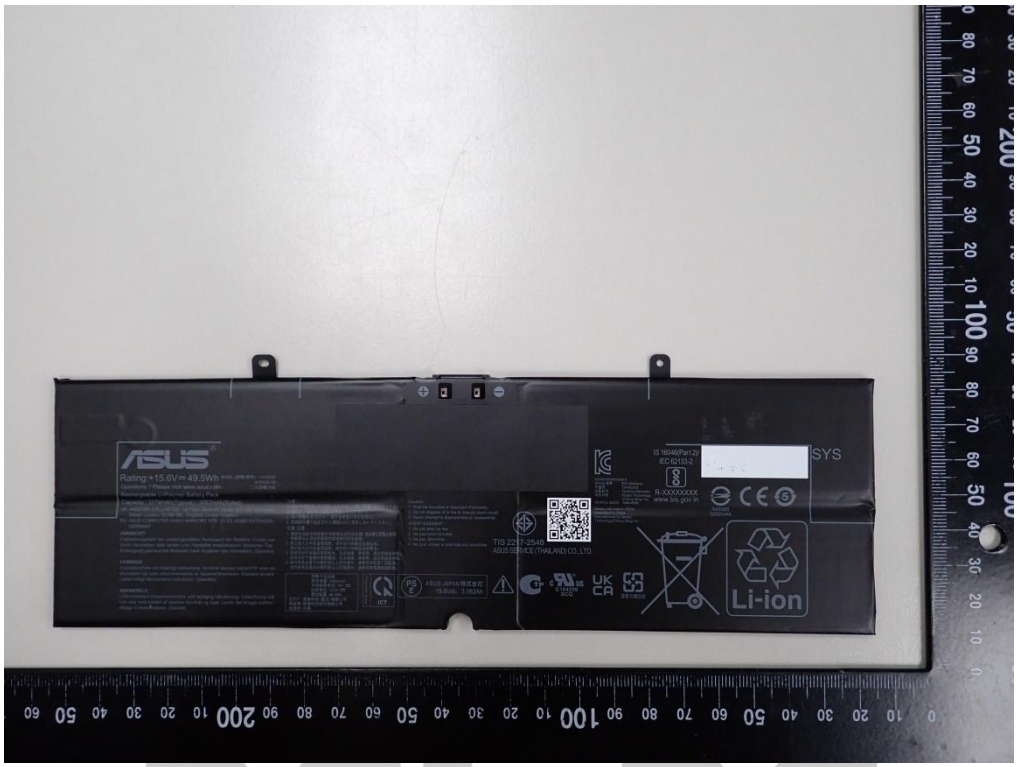
|---|---|---|---|---|---|---|
| | | | | | | |
| **Supplementary information:** | | | | | | |

| **D.2** | **TABLE: Internal AC resistance for coin cells** | | | **N/A** |
|---|---|---|---|---|
| **Sample No.** | **Ambient T (°C)** | **Store time (h)** | **Resistance Rac (Ω)** | **Results [1)]** |
| | | | | |
| | | | | |
| | | | | |
| **Supplementary information:** | | | | |

## Battery

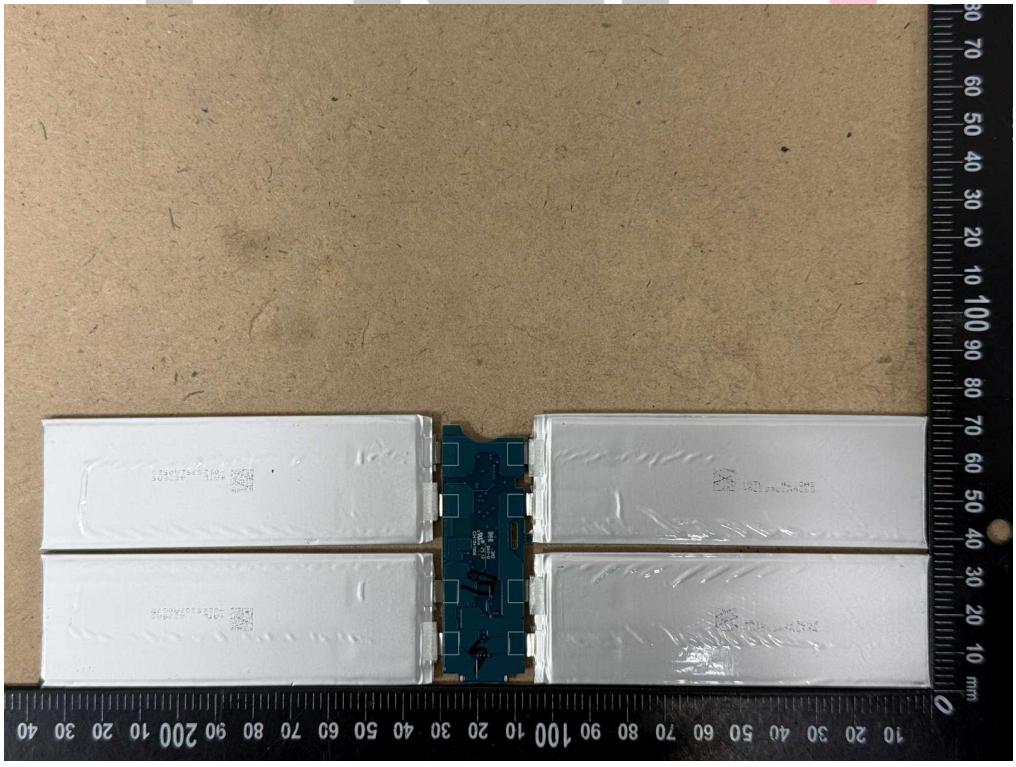



Front view of the battery

Back view of the battery

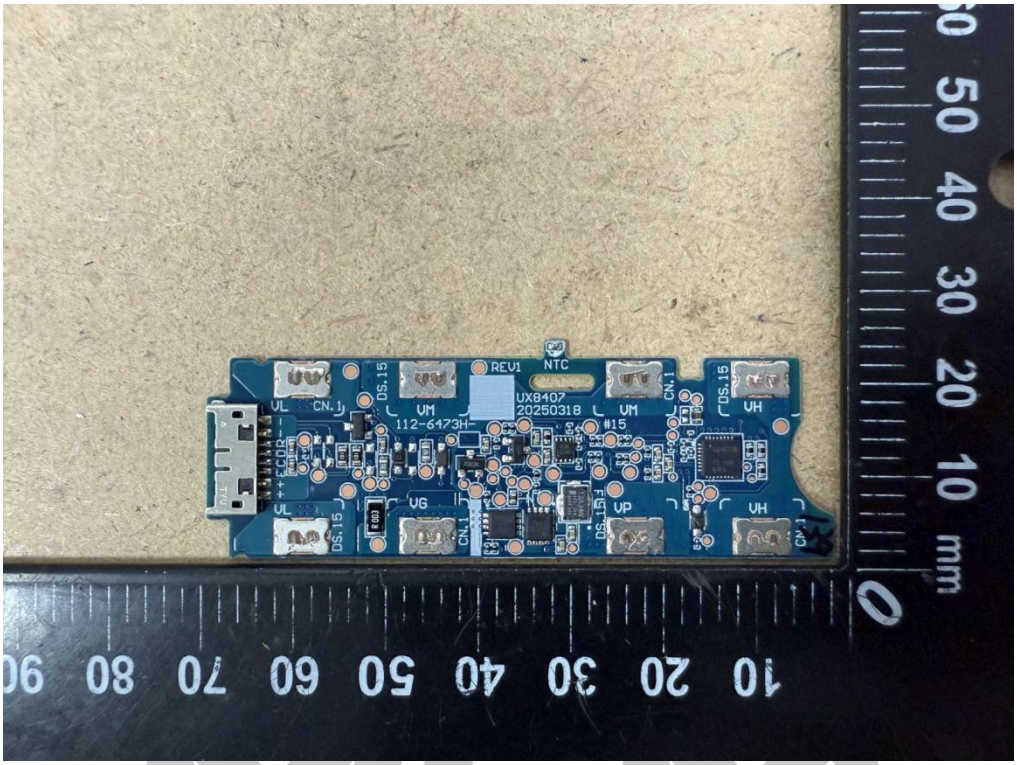
## Battery

Inside view of the battery

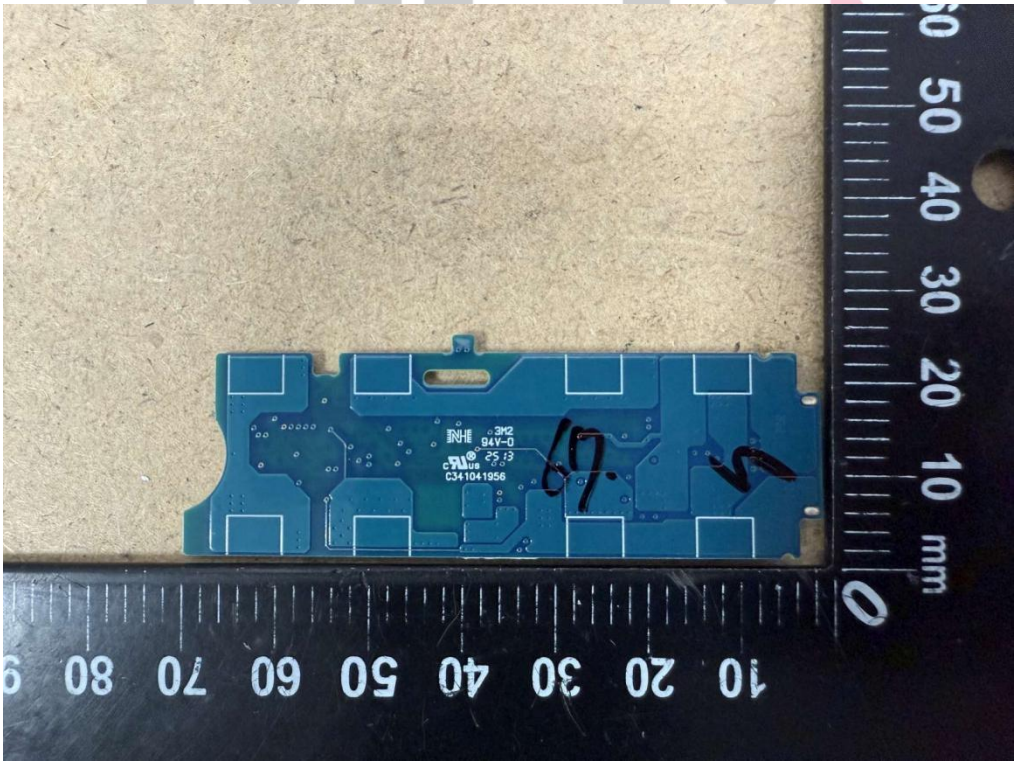


Inside view of the battery

## PCB/PCM

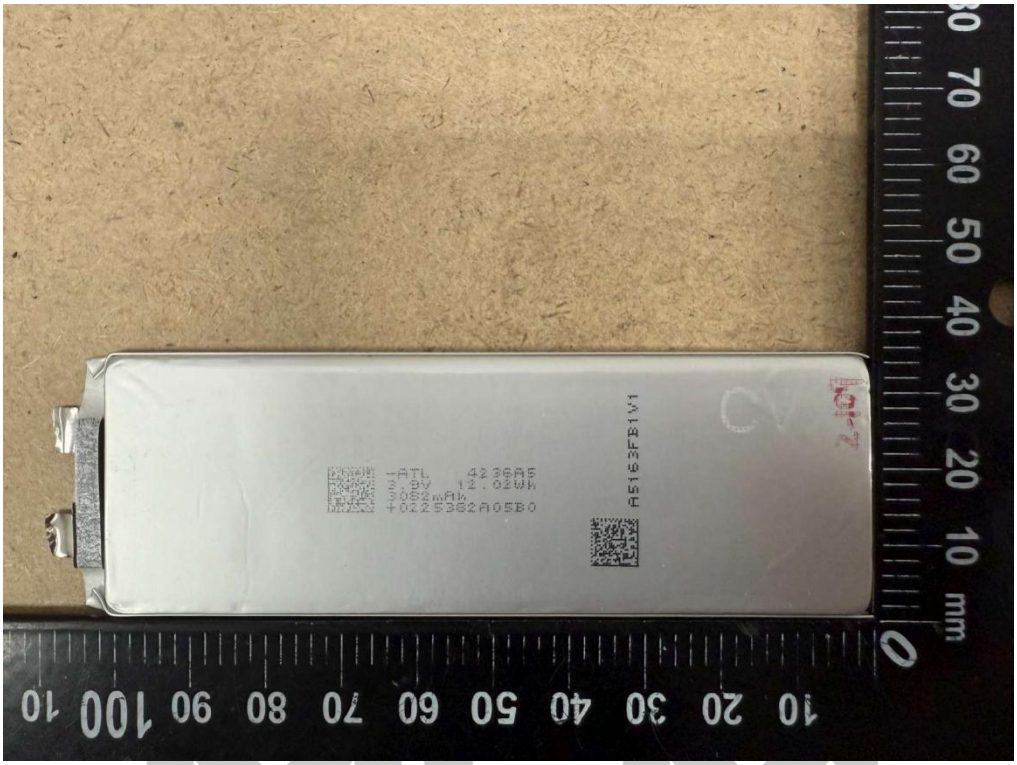



Front view of PCM

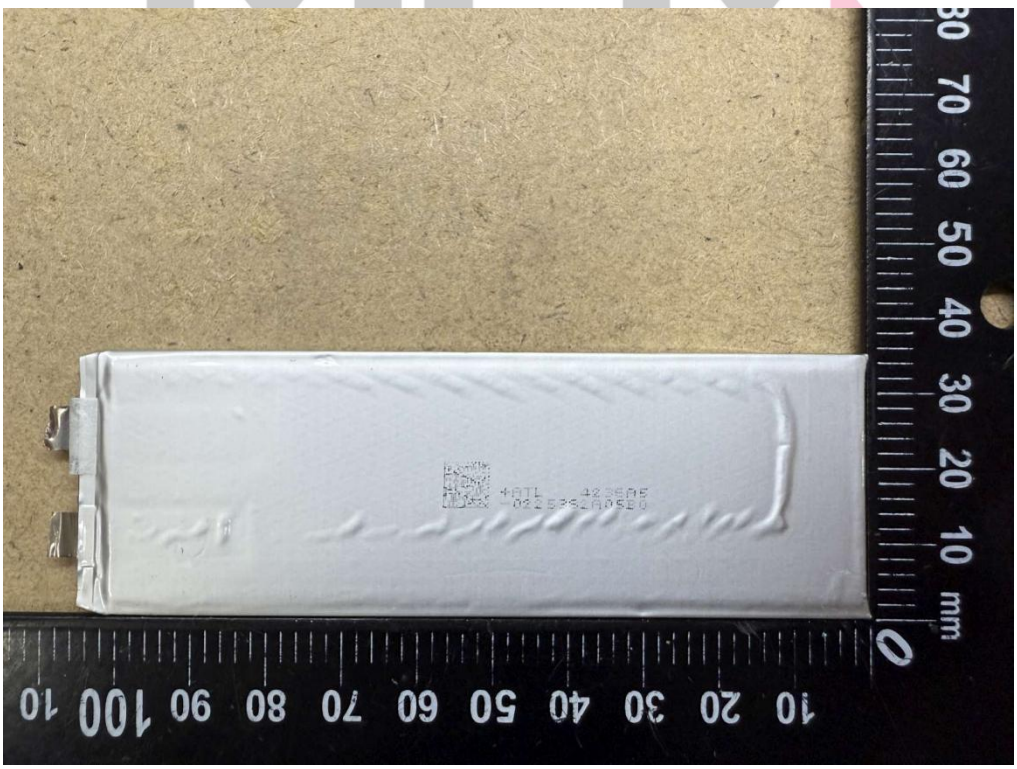


Back view of PCM

## Cell




Front view of cell




Back view of cell

**-- End of Report –**

| Important Note |
|---|
| 1. This test report is invalid without the special testing seal and cross-page seal of Guangzhou MCM Certification & Testing Co., Ltd. |
| 2. Nobody is allowed to photocopy or partly photocopy this test report without written permission of Guangzhou MCM Certification & Testing Co., Ltd. |
| 3. This test report is invalid without the signatures of Approver, Reviewer and Tester. |
| 4. This test report is invalid if altered. |
| 5. Objection to this test report must be submitted to Guangzhou MCM Certification & Testing Co., Ltd. within 15 days after the publication of the report. |
| 6. This test report is only responsible for the received samples. |
| 7. We are not responsible for the authenticity of information (including sample information) provided by customers. |
| 8. As for the test results, “N/A” means “Not applicable”, “P” means “Pass” and “F” means “Fail”. |


| | |
|---|---|
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