# *Lithium-ion Battery UN38.3 Test Report*

## Recommendations on the TRANSPORT OF DANGEROUS GOODS

(Manual of Tests and Criteria, Fifth revised edition, Amend.1)

**Customer: Lenovo**
**Model: L15M2PB5**
**Rating: 7.68V, TYP 5080mAh / 39Wh**
**MIN 4950mAh / 38Wh**

| Approved By | Checked By | Prepared By |
|---|---|---|
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## 1. Purpose of the Test：

To test each cell/battery is of the type proved to meet the requirements in United Nations Recommendations on the TRANSPORT OF DANGEROUS GOODS, Manual of Tests and Criteria, Fifth revised edition, Amend.1, Section 38.3.

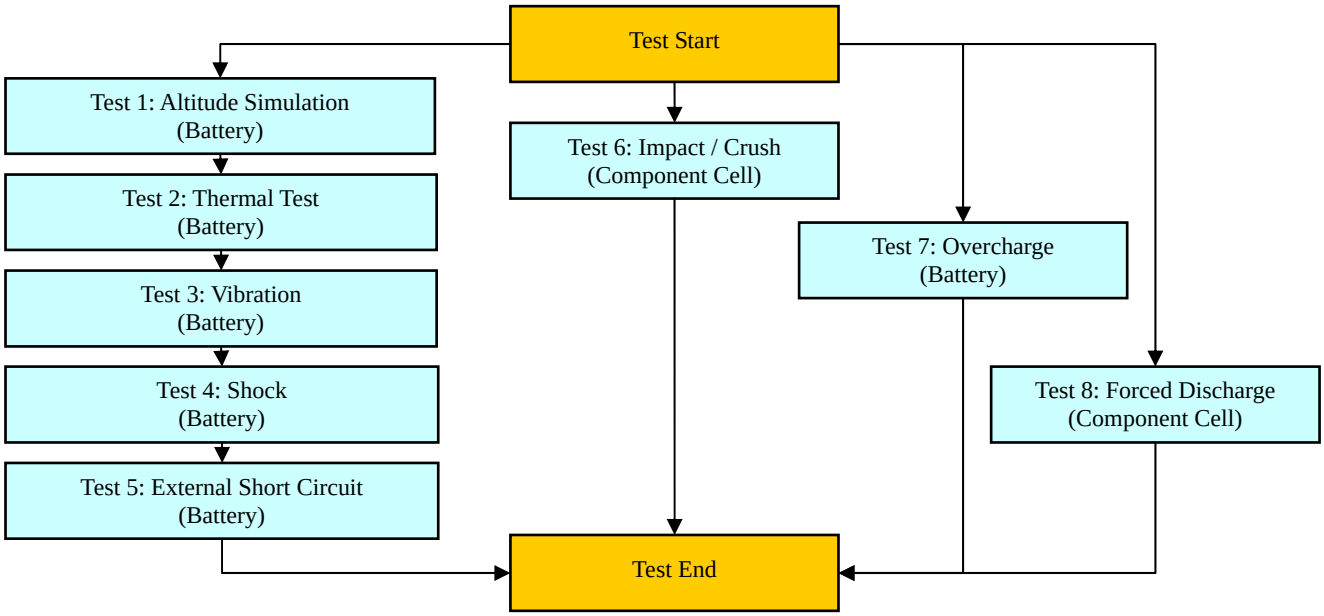
## 2. Test Quantity：

2.1 Four batteries, at first cycle, in fully charged states. (For T.1~T.5)
2.2 Four batteries, after 50 cycles ending in fully charged states. (For T.1~T.5)
2.3 Five component cells, at first cycle at 50% of the design rated capacity. (For T.6)
2.4 Four batteries, at first cycle, in fully charged states. (For T.7)
2.5 Four batteries, after 50 cycles ending in fully charged states. (For T.7)
2.6 Ten component cells, at first cycle in fully discharge states. (For T.8)
2.7 Ten component cells, after 50 cycles ending in fully discharged states. (For T.8)

## 3. Test Procedure：

3.1 All detailed test procedures must be based on United Nations Recommendations on the TRANSPORT OF DANGEROUS GOODS, Manual of Tests and Criteria, Fifth revised edition, Amend.1, Section 38.3.

3.2 Test flow shall be followed as below.



## 4. Test Result：

4.1 T.1 ~T.4 Test result: **Passed**

4.1.1 All batteries could meet the requirement of Table 38.3.1 Mass loss limit (M<1g: 0.5% ; 1g≦M≦75g: 0.2% ; M>75g: 0.1%) and residual OCV not less than 90% after the test.

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

4.2 T.5 Test result: **Passed**

4.2.1 All batteries could meet the requirement, external temperature did not exceed 170℃.

4.2.2 All batteries were no disassembly, no rupture and no fire during the test and within six hours after the test.

4.3 T.6 Test result: **Passed**

4.3.1 All component cells could meet the requirement, external temperature did not exceed 170℃.

4.3.2 All component cells were no disassembly and no fire during the test and within six hours after the test.

4.4 T.7 Test result: **Passed**

4.4.1 All batteries could meet no disassembly and no fire during the test and within seven days after the test.

4.5 T.8 Test result: **Passed**

4.5.1 All component cells could meet the requirement, no disassembly and no fire during the test and within seven days after the test.

**Conclusion: The samples had passed the test items of UN38.3.**

# 5. Test Equipment：

SMP 新普电子(常熟)有限公司
Address : No.2 Dong Nan Avenue, Changshu, Jiangsu Province, China
TEL : 0512-52302255 FAX: 0512-52302277

Revised date: 2015/10/20 Page:1
Date:2015/10/12~2015/11/07
Model name: L15M2PB5

**Test Instruments Reference List**

| Used | Instrument ID(New) | Instrument ID(Old) | Instrument Name | Type | Range of Use | Manufacturer | Calibration Date_Last | Calibration Date_Next | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | **Pretest** | | | | | | | | |
| V | EE01-CA-I00002 | C602M00/S0096 | 715 learning機 | 新普科技 | 18V/8A | 新普科技 | 2014/12/30 | 2015/12/29 | |
| V | EE03-CA-I00018 | C602M00/S0107 | 720 learning機 | 新普科技 | Chang:18V/17A Dischange:16V/18A | 新普科技 | 2015/03/09 | 2016/03/08 | |
| | EE01-CA-I00003 | C602M00/S0099 | 715 learning機 | 新普科技 | 18V/8A | 新普科技 | 2015/03/09 | 2016/03/08 | |
| | EE01-CA-I00005 | C602M00/S0098 | 715 learning機 | 新普科技 | 18V/8A | 新普科技 | 2015/04/09 | 2016/04/08 | |
| | EE03-CA-I00020 | C602M00/S0163 | 720 learning機 | 新普科技 | Chang:18V/17A Dischange:16V/18A | 新普科技 | 2015/10/20 | 2016/10/19 | |
| | | | | | | | | | |
| | **Altitude Simulation** | | | | | | | | |
| V | EC15-CA-E00003 | C602M00/0462 | Altitude | SVT-110 | Kpa: 0～99Kpa | HSIN JIANG | 2015/09/08 | 2016/09/07 | |
| V | EA02-CA-I00002 | C602M00/0293 | mΩ Hitester | 3561 | R:-10~310mΩ V:-20~20V | HIOKI | 2015/9/16 | 2016/9/15 | |
| V | EF03-CA-I00001 | C602M00/C0604 | Electronic Balance | XS1220M-SCS | 1220g±0.001g | CHENGZHUN | 2015/10/20 | 2016/10/19 | |
| V | ED01-CA-I00007 | C602M00/T0412 | Thermo Meter | TA218 | T：-10℃~70℃ RH ：25%～98% | KTJ | 2015/8/27 | 2016/8/26 | |
| | | | | | | | | | |
| | **Thermal Test** | | | | | | | | |
| V | EC29-CA-E00002 | C602M00/0671 | Thermal Shock | TSK-A4C-150 | T:-65℃ to 150℃ | KSON | 2015/06/09 | 2016/06/08 | |
| V | EA02-CA-I00002 | C602M00/0293 | mΩ Hitester | 3561 | R:-10~310mΩ V:-20~20V | HIOKI | 2015/9/16 | 2016/9/15 | |
| V | EF03-CA-I00001 | C602M00/C0604 | Electronic Balance | XS1220M-SCS | 1220g±0.001g | CHENGZHUN | 2015/10/20 | 2016/10/19 | |
| V | ED01-CA-I00007 | C602M00/T0412 | Thermo Meter | TA218 | T：-10℃~70℃ RH ：25%～98% | KTJ | 2015/8/27 | 2016/8/26 | |
| | | | | | | | | | |
| | **Vibration Test** | | | | | | | | |
| V | EC08-CA-E00001 | C602M00/0197 | Vibration | EM-200F2K-25N50 | F:3~2000Hz G:0.2~55G | King Design | 2015/3/11 | 2016/3/10 | |
| | EC08-CA-E00002 | C602M00/0052 | Vibration | EM-200F2K-25N50 | F:3~2000Hz G:0.2~55G | King Design | 2015/9/23 | 2016/9/22 | |
| V | EA02-CA-I00002 | C602M00/0293 | mΩ Hitester | 3561 | R:-10~310mΩ V:-20~20V | HIOKI | 2015/9/16 | 2016/9/15 | |
| V | EF03-CA-I00001 | C602M00/C0604 | Electronic Balance | XS1220M-SCS | 1220g±0.001g | CHENGZHUN | 2015/10/20 | 2016/10/19 | |
| | | | | | | | | | |
| | **Shock Test** | | | | | | | | |
| V | EC17-CA-E00001 | C602M00/0570 | Shock | HS 15/45 | G:10~2000G | Lansmont | 2015/09/08 | 2016/09/07 | |
| V | EA02-CA-I00002 | C602M00/0293 | mΩ Hitester | 3561 | R:-10~310mΩ V:-20~20V | HIOKI | 2015/9/16 | 2016/9/15 | |
| V | EF03-CA-I00001 | C602M00/C0604 | Electronic Balance | XS1220M-SCS | 1220g±0.001g | CHENGZHUN | 2015/10/20 | 2016/10/19 | |
| | | | | | | | | | |
| | **External Short Circuit** | | | | | | | | |
| V | EA02-CA-I00002 | C602M00/0293 | mΩ Hitester | 3561 | R:-10~310mΩ V:-20~20V | HIOKI | 2015/9/16 | 2016/9/15 | |
| V | EA09-CA-I00004 | C602M00/0207 | Data logger | 34970A | V:0~300V, T:-150℃~1200℃ | Agilent | 2015/9/16 | 2016/9/15 | |
| V | EC26-CA-I00023 | C602M00/0518 | chamber | WIT TH-2P-E | -40℃ to 150℃ | WIT | 2015/08/11 | 2016/08/10 | |
| V | ED01-CA-I00007 | C602M00/T0412 | Thermo Meter | TA218 | T：-10℃~70℃ RH ：25%～98% | KTJ | 2015/8/27 | 2016/8/26 | |
| | | | | | | | | | |
| | **Impact /Crush** | | | | | | | | |
| | EC17-CA-I00001 | C602M00/1204 | Impact test | 100-372 | H:60~80cm | JYI SHENG | 2015/9/16 | 2016/9/15 | |
| V | EC23-CA-E00001 | C602M00/0743 | Crush Test | BE-6047 | 1.0KN~15.0KN | BELL | 2015/09/08 | 2016/09/07 | |
| V | EA09-CA-I00005 | C602M00/0588 | Data logger | 34970A | V:0~300V, T:-150℃~1200℃ | Agilent | 2015/9/16 | 2016/9/15 | |
| V | ED01-CA-I00010 | C602M00/T0581 | Thermo Meter | TA218 | T：-10℃~70℃ RH ：25%～98% | KTJ | 2015/6/22 | 2016/6/21 | |
| | | | | | | | | | |
| | **Overcharge** | | | | | | | | |
| V | EA06-CA-E00003 | C602M00/P0779 | Power Supply | DS6024 | 0~60V 0~24A | MOTECH | 2015/03/11 | 2016/03/10 | |
| V | EA06-CA-E00002 | C602M00/P0777 | Power Supply | DS6024 | 0~60V 0~24A | MOTECH | 2015/03/11 | 2016/03/10 | |
| V | EA06-CA-E00001 | C602M00/P0775 | Power Supply | DS6024 | 0~60V 0~24A | MOTECH | 2015/03/11 | 2016/03/10 | |
| V | EA06-CA-E00004 | C602M00/P0781 | Power Supply | DS6024 | 0~60V 0~24A | MOTECH | 2015/03/11 | 2016/03/10 | |
| V | ED01-CA-I00007 | C602M00/T0412 | Thermo Meter | TA218 | T：-10℃~70℃ RH ：25%～98% | KTJ | 2015/8/27 | 2016/8/26 | |
| | | | | | | | | | |
| | **Froced Discharge** | | | | | | | | |
| V | EA06-CA-I00004 | | Power Supply | E3633A | 0~8V,20A/0~20V,10A | AGILENT | 2015/9/16 | 2016/9/15 | |
| V | EA06-CA-I00016 | | Power Supply | E3633A | 0~8V,20A/0~20V,10A | AGILENT | 2015/5/10 | 2016/5/9 | |
| V | EA06-CA-I00015 | C602M00/P0481 | Power Supply | E3633A | 0~8V,20A/0~20V,10A | AGILENT | 2015/5/10 | 2016/5/9 | |
| V | EA05-CA-I00006 | | Electronic LOAD | 3311D | 60V/60A, 300W | PRODIGIT | 2015/0512 | 2016/05/11 | |
| V | EA05-CA-I00009 | | Electronic LOAD | 3311F | 60V/60A, 300W | PRODIGIT | 2015/0512 | 2016/05/11 | |
| V | EA05-CA-I00008 | C602M00/L0402 | Electronic LOAD | 3311F | 60V/60A, 300W | PRODIGIT | 2015/08/13 | 2016/08/12 | |

Note 1: DC Voltage: 0.1-1000V; AC Voltage: 0.5-700V at 60Hz, 1kHz; Resistance: 10Ω-10MΩ; DC current:0.1mA-3A; AC current: 0.01mA-3A at 60Hz, 0.01mA-1A, at 1kHz

# 6. T.1~T.8 Detail Reports:

Control No.:LE-CU-15-11-012

## UN 38.3 Test Datasheet

Customer: Lenovo  Model Name:L15M2PB5  Test Duration: 2015/10/12~2015/11/07  Reviewer: Wind_Zhao

Test Sample Identification:

| Battery Pack | | | | | | Component Cell | | |
|---|---|---|---|---|---|---|---|---|
| Used | Sample No. | Sample State | Used | Sample No. | Sample State | Used | Sample No. | Sample State |
| V | 01~04 | 1 Cycle, Fully charged | V | 05~08 | 50 Cycles, Fully charged | V | 01C~05C | 1 Cycle, 50% charged |
| V | 09~12 | 1 Cycle, Fully charged | V | 13~16 | 50 Cycles, Fully charged | V | 06C~15C | 1 Cycle, 0% discharged |
| | | 25Cycles, Fully charged | | | 25Cycles, Fully charged | V | 16C~25C | 50 Cycles, 0% discharged |

T.1 Altitude Simulation  Start time:2015/10/26 08:20  Finish time:2015/10/26 17:30  Ambient temp.: 20.0 ℃  Operator: Happy_Gu

| Sample No.: 01 | | | | | | Sample No.: 02 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 150.123 | 150.121 | Mass loss % | 0.00% | P | Mass (g) | 147.357 | 147.354 | Mass loss % | 0.00% | P |
| OCV (V) | 8.749 | 8.744 | Residual OCV % | 99.94% | | OCV (V) | 8.759 | 8.753 | Residual OCV % | 99.93% | |
| Sample No.: 03 | | | | | | Sample No.: 04 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.857 | 145.854 | Mass loss % | 0.00% | P | Mass (g) | 145.346 | 145.344 | Mass loss % | 0.00% | P |
| OCV (V) | 8.750 | 8.743 | Residual OCV % | 99.92% | | OCV (V) | 8.766 | 8.759 | Residual OCV % | 99.92% | |
| Sample No.: 05 | | | | | | Sample No.: 06 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.698 | 145.696 | Mass loss % | 0.00% | P | Mass (g) | 146.981 | 146.979 | Mass loss % | 0.00% | P |
| OCV (V) | 8.773 | 8.766 | Residual OCV % | 99.92% | | OCV (V) | 8.762 | 8.757 | Residual OCV % | 99.94% | |
| Sample No.: 07 | | | | | | Sample No.: 08 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 146.882 | 146.880 | Mass loss % | 0.00% | P | Mass (g) | 148.056 | 148.054 | Mass loss % | 0.00% | P |
| OCV (V) | 8.762 | 8.756 | Residual OCV % | 99.93% | | OCV (V) | 8.756 | 8.751 | Residual OCV % | 99.94% | |

T.2 Thermal Test  Start time:2015/10/26 17:40  Finish time:2015/11/02 08:20  Ambient temp.: 19.5 ℃  Operator: Happy_Gu

| Sample No.: 01 | | | | | | Sample No.: 02 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 150.121 | 150.119 | Mass loss % | 0.00% | P | Mass (g) | 147.354 | 147.351 | Mass loss % | 0.00% | P |
| OCV (V) | 8.744 | 8.622 | Residual OCV % | 98.60% | | OCV (V) | 8.753 | 8.634 | Residual OCV % | 98.64% | |
| Sample No.: 03 | | | | | | Sample No.: 04 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.854 | 145.852 | Mass loss % | 0.00% | P | Mass (g) | 145.344 | 145.340 | Mass loss % | 0.00% | P |
| OCV (V) | 8.743 | 8.626 | Residual OCV % | 98.66% | | OCV (V) | 8.759 | 8.635 | Residual OCV % | 98.58% | |
| Sample No.: 05 | | | | | | Sample No.: 06 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.696 | 145.694 | Mass loss % | 0.00% | P | Mass (g) | 146.979 | 146.975 | Mass loss % | 0.00% | P |
| OCV (V) | 8.766 | 8.645 | Residual OCV % | 98.62% | | OCV (V) | 8.757 | 8.639 | Residual OCV % | 98.65% | |
| Sample No.: 07 | | | | | | Sample No.: 08 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 146.880 | 146.876 | Mass loss % | 0.00% | P | Mass (g) | 148.054 | 148.052 | Mass loss % | 0.00% | P |
| OCV (V) | 8.756 | 8.633 | Residual OCV % | 98.60% | | OCV (V) | 8.751 | 8.627 | Residual OCV % | 98.58% | |

T.3 Vibration  Start time:2015/11/02 08:40  Finish time:2015/11/03 08:20  Ambient temp.: 20.7 ℃  Operator: Happy_Gu

| Sample No.: 01 | | | | | | Sample No.: 02 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 150.119 | 150.116 | Mass loss % | 0.00% | P | Mass (g) | 147.351 | 147.348 | Mass loss % | 0.00% | P |
| OCV (V) | 8.622 | 8.613 | Residual OCV % | 99.90% | | OCV (V) | 8.634 | 8.623 | Residual OCV % | 99.87% | |
| Sample No.: 03 | | | | | | Sample No.: 04 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.852 | 145.850 | Mass loss % | 0.00% | P | Mass (g) | 145.340 | 145.338 | Mass loss % | 0.00% | P |
| OCV (V) | 8.626 | 8.618 | Residual OCV % | 99.91% | | OCV (V) | 8.635 | 8.625 | Residual OCV % | 99.88% | |
| Sample No.: 05 | | | | | | Sample No.: 06 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.694 | 145.692 | Mass loss % | 0.00% | P | Mass (g) | 146.975 | 146.972 | Mass loss % | 0.00% | P |
| OCV (V) | 8.645 | 8.635 | Residual OCV % | 99.88% | | OCV (V) | 8.639 | 8.631 | Residual OCV % | 99.91% | |
| Sample No.: 07 | | | | | | Sample No.: 08 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 146.876 | 146.874 | Mass loss % | 0.00% | P | Mass (g) | 148.052 | 148.050 | Mass loss % | 0.00% | P |
| OCV (V) | 8.633 | 8.624 | Residual OCV % | 99.90% | | OCV (V) | 8.627 | 8.618 | Residual OCV % | 99.90% | |

**T.4 Shock**

Start time:2015/11/03 08:40
Finish time:2015/11/03 13:30

Ambient temp.: 21.4 ℃

Operator: Happy_Gu

| Sample No.: 01 | | | | | | Sample No.: 02 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 150.116 | 150.113 | Mass loss % | 0.00% | P | Mass (g) | 147.348 | 147.345 | Mass loss % | 0.00% | P |
| OCV (V) | 8.613 | 8.610 | Residual OCV % | 99.97% | | OCV (V) | 8.623 | 8.620 | Residual OCV % | 99.97% | |
| Sample No.: 03 | | | | | | Sample No.: 04 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.850 | 145.847 | Mass loss % | 0.00% | P | Mass (g) | 145.338 | 145.335 | Mass loss % | 0.00% | P |
| OCV (V) | 8.618 | 8.614 | Residual OCV % | 99.95% | | OCV (V) | 8.625 | 8.621 | Residual OCV % | 99.95% | |
| Sample No.: 05 | | | | | | Sample No.: 06 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 145.692 | 145.689 | Mass loss % | 0.00% | P | Mass (g) | 146.972 | 146.969 | Mass loss % | 0.00% | P |
| OCV (V) | 8.635 | 8.632 | Residual OCV % | 99.97% | | OCV (V) | 8.631 | 8.629 | Residual OCV % | 99.98% | |
| Sample No.: 07 | | | | | | Sample No.: 08 | | | | | |
| | Before | After | Variation | | Results | | Before | After | Variation | | Results |
| Mass (g) | 146.874 | 146.871 | Mass loss % | 0.00% | P | Mass (g) | 148.050 | 148.047 | Mass loss % | 0.00% | P |
| OCV (V) | 8.624 | 8.622 | Residual OCV % | 99.98% | | OCV (V) | 8.618 | 8.615 | Residual OCV % | 99.97% | |

**T.5 External Short Circuit**

Start time:2015/11/03 13:50
Finish time:2015/11/04 09:10

Ambient temp.: 20.6 ℃

Operator: Happy_Gu

| | Sample No.: 01 | | Sample No.: 02 | | Sample No.: 03 | | Sample No.: 04 | | Sample No.: 05 | | Sample No.: 06 | | Sample No.: 07 | | Sample No.: 08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Resistance (<100mΩ) | 56.8 | | 59.2 | | 57.3 | | 56.6 | | 55.7 | | 57.9 | | 58.8 | | 57.3 | |
| OCV before test/ after short circuit(V) | 8.610 | 0.000 | 8.620 | 0.000 | 8.614 | 0.000 | 8.621 | 0.000 | 8.632 | 0.000 | 8.629 | 0.000 | 8.622 | 0.000 | 8.615 | 0.000 |
| Max Temp. ( < 170℃ ) | 54.8 | | 55.3 | | 55.8 | | 54.6 | | 55.2 | | 55.6 | | 54.7 | | 55.4 | |
| Results | P | | P | | P | | P | | P | | P | | P | | P | |

**T.6 Impact / Crush**

Start time:2015/10/13 08:30
Finish time:2015/10/13 18:40

Ambient temp.: 19.4 ℃

Operator: Happy_Gu

☐ Impact-Cylindrical cells greater than 20mm in diameter

■ Crush- Prismatic, pouch, coin/button cells and cylindrical cells not more than 20mm in diameter

| | Sample No.: 01C | Sample No.: 02C | Sample No.: 03C | Sample No.: 04C | Sample No.: 05C |
|---|---|---|---|---|---|
| OCV before test(V) | 3.840 | 3.841 | 3.841 | 3.840 | 3.840 |
| Max Temp. ( < 170℃ ) | 29.6 | 31.2 | 31.9 | 30.5 | 31.4 |
| Results | P | P | P | P | P |

**T.7 Overcharge**

Start time:2015/10/26 10:20
Finish time:2015/11/06 13:10

Ambient temp.: 18.9 ℃

Operator: Happy_Gu

| | Sample No.: 09 | Sample No.: 10 | Sample No.: 11 | Sample No.: 12 | Sample No.: 13 | Sample No.: 14 | Sample No.: 15 | Sample No.: 16 |
|---|---|---|---|---|---|---|---|---|
| OCV before test(V) | 8.751 | 8.744 | 8.755 | 8.750 | 8.746 | 8.746 | 8.743 | 8.748 |
| Results | P | P | P | P | P | P | P | P |

**T.8 Forced Discharge**

Start time:2015/10/27 08:30
Finish time:2015/11/06 09:30

Ambient temp.: 20.4 ℃

Operator: Happy_Gu

| | Sample No.: 06C | Sample No.: 07C | Sample No.: 08C | Sample No.: 09C | Sample No.: 10C |
|---|---|---|---|---|---|
| OCV before test(V) | 3.375 | 3.376 | 3.381 | 3.384 | 3.372 |
| Results | P | P | P | P | P |
| | Sample No.: 11C | Sample No.: 12C | Sample No.: 13C | Sample No.: 14C | Sample No.: 15C |
| OCV before test(V) | 3.373 | 3.371 | 3.372 | 3.373 | 3.376 |
| Results | P | P | P | P | P |
| | Sample No.: 16C | Sample No.: 17C | Sample No.: 18C | Sample No.: 19C | Sample No.: 20C |
| OCV before test(V) | 3.381 | 3.380 | 3.382 | 3.382 | 3.380 |
| Results | P | P | P | P | P |
| | Sample No.: 21C | Sample No.: 22C | Sample No.: 23C | Sample No.: 24C | Sample No.: 25C |
| OCV before test(V) | 3.381 | 3.382 | 3.384 | 3.383 | 3.382 |
| Results | P | P | P | P | P |

## 7. Test sample: