

## UN38.3 Test Report

**Tested According to UN Manual of Tests and Criteria, Part  
III, subsection 38.3, Rev 6,Amend1**

|                           |                                              |
|---------------------------|----------------------------------------------|
| <b>Name of Sample:</b>    | <b>RECHARGEABLE LI-ION BATTERY</b>           |
| <b>Pack Model/Type:</b>   | <b>BT-000314</b>                             |
| <b>Pack Manufacturer:</b> | <b>ZEBRA TECHNOLOGIES CORP.</b>              |
| <b>Cell Model/Type:</b>   | <b>Panasonic sanyo#NCA596080SA</b>           |
| <b>Rated Capacity:</b>    | <b>TYP.4300mAh MIN.4050mAh</b>               |
| <b>Report No.:</b>        | <b>TR-DCAL-10-6337</b>                       |
| <b>Applicant:</b>         | <b>Inventus Power, Inc.–Technical Center</b> |
| <b>Total Pages:</b>       | <b>13</b>                                    |

**All applicable tests according to the above standard(s) have been carried out.**

**Test results are valid only for the tested samples.**

**This Test Report can be reproduced only in whole.**

### General Information

|                |                                                                                                                                 |              |            |
|----------------|---------------------------------------------------------------------------------------------------------------------------------|--------------|------------|
| Sample Name    | RECHARGEABLE LI-ION BATTERY                                                                                                     |              |            |
| Model/Type     | BT-000314                                                                                                                       |              |            |
| Applicant      | Inventus Power, Inc.-Technical Center                                                                                           |              |            |
| Manufacturer   | ZEBRA TECHNOLOGIES CORP.                                                                                                        |              |            |
| Factory        | ICC Electronics (Dongguan) Ltd                                                                                                  |              |            |
| Project Number | 6337                                                                                                                            | Receive Date | 2020-09-30 |
| Sample Number  | 6337-1-01~6337-1-48                                                                                                             | Structure    | 1S1P       |
| Test place     | 5th Floor Western, Changhua Building No.921 Xingye Road,<br>Nancun Town, Panyu, Guangzhou City, Guangdong 511442,<br>P.R. China |              |            |
| Test Standard  | ST/SG/AC.10/11/Rev.6, Amend1/Section 38.3                                                                                       |              |            |
| Test Date      | 2020-09-30~2020-10-23                                                                                                           |              |            |
| Conclusion     | PASS                                                                                                                            |              |            |
| Remark         | /                                                                                                                               |              |            |

Tested By: *Dy Lan Gao*Approved By: *Li Gang*Date: *2020.10.23*Date: *2020-10-27*

## Summary of UN38.3 Test

| No.                                                    | Test Item              | Description                                                                                        | Results | Note |
|--------------------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------|---------|------|
| T1                                                     | Altitude Simulation    | simulate air transport under low-pressure conditions.                                              | PASS    | /    |
| T2                                                     | Thermal Test           | assess battery seal integrity and internal electrical connections.                                 | PASS    | /    |
| T3                                                     | Vibration              | simulate vibration during transport.                                                               | PASS    | /    |
| T4                                                     | Shock                  | simulate possible impacts during transport.                                                        | PASS    | /    |
| T5                                                     | External Short Circuit | simulate an external short circuit.                                                                | PASS    | /    |
| T6                                                     | Crush                  | simulate a crush                                                                                   | PASS    | /    |
| T7                                                     | Overcharge             | evaluate the ability of a rechargeable battery to withstand an overcharge condition.               | PASS    | /    |
| T8                                                     | Forced Discharge       | evaluate the ability of a primary or a rechargeable cell to withstand a forced discharge condition | PASS    | /    |
| Description of the sampling procedure                  |                        | /                                                                                                  |         |      |
| Description of the deviation from the standard, if any |                        | /                                                                                                  |         |      |
| Overall status                                         |                        | /                                                                                                  |         |      |

## TEST EQUIPMENT INFORMATION

| Equipment Name             | Model Name     | Instr. Code | Last Cal. Date | Next Cal. Date |
|----------------------------|----------------|-------------|----------------|----------------|
| Digital Multimeter         | 34401A         | 04          | 2019-11-20     | 2020-11-19     |
| altitude chamber           | T-TRD-C-36     | 55          | 2019-11-20     | 2020-11-19     |
| Type J Thermocouple        | TT-J-30-SLE    | 61&62       | 2019-06-29     | --             |
| Clock                      | LCT070NR02     | 63          | 2019-11-21     | 2020-11-20     |
| DC low resistance tester   | JK2511         | 66          | 2019-11-20     | 2020-11-19     |
| Battery short circuit wire | --             | 89          | --             | --             |
| Impact Test Bench          | CL-20/KCL-2000 | 98          | 2019-11-20     | 2020-11-19     |
| Vibration Test Bench       | DC-300-3       | 99          | 2019-11-20     | 2020-11-19     |
| Battery Impact Tester      | GX-5066        | 103         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PAN35-10A      | 112         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PAT60-67T      | 113         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PAT60-67T      | 114         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PAT60-67T      | 118         | 2019-11-20     | 2020-11-19     |
| Data Acquisition***        | 34970A         | 142         | 2019-11-20     | 2020-11-19     |
| Data Acquisition Card***   | 34901A         | 143         | 2019-11-20     | 2020-11-19     |
| Data Acquisition***        | 34972A         | 144         | 2019-11-20     | 2020-11-19     |
| Data Acquisition Card***   | 34901A         | 145         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PWR400L        | 146         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PWR400L        | 147         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PWR400L        | 148         | 2019-11-20     | 2020-11-19     |
| DC Source                  | PWR400L        | 149         | 2019-11-20     | 2020-11-19     |
| E-load                     | PLZ164W        | 150         | 2019-11-20     | 2020-11-19     |
| E-load                     | PLZ334W        | 151         | 2019-11-20     | 2020-11-19     |
| E-load                     | PLZ164W        | 152         | 2019-11-20     | 2020-11-19     |
| E-load                     | PLZ405W        | 153         | 2019-11-20     | 2020-11-19     |
| Thermo-hygrometers         | JB913          | 160         | 2020-06-12     | 2021-06-13     |
| Cold and Heat Shock Box    | J-MTCT-30-CF   | 166         | 2019-11-20     | 2020-11-19     |
| Electrical Scale           | YHC            | 167         | 2019-06-12     | 2021-06-13     |



## T1: Altitude Simulation

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Method:** The batteries shall be stored at a pressure of 11.6Kpa or less for at least 6 hours at ambient temperature ( $20\pm 5^{\circ}\text{C}$ ). Each battery was inspected for leak of electrolyte.

**Charge Method:** 804 mA @ CV= 4.2 V up to 86.8 mA cutoff

**Discharge Method:** 804 mA up to 2.75 V

### Result:

| Sample No.           | Before test |         | After test |           |         |                       |
|----------------------|-------------|---------|------------|-----------|---------|-----------------------|
|                      | Mass        | Voltage | Mass       | Mass loss | Voltage | Voltage percentage(%) |
|                      | (g)         | (V)     | (g)        | (%)       | (V)     | not less than 90%     |
| 6337-1-01            | 95.720      | 4.160   | 95.695     | 0.026     | 4.153   | 99.832                |
| 6337-1-02            | 95.611      | 4.162   | 95.588     | 0.024     | 4.155   | 99.831                |
| 6337-1-03            | 95.791      | 4.161   | 95.770     | 0.021     | 4.156   | 99.880                |
| 6337-1-04            | 95.708      | 4.165   | 95.677     | 0.032     | 4.160   | 99.880                |
| 6337-1-05            | 95.726      | 4.171   | 95.707     | 0.020     | 4.161   | 99.760                |
| 6337-1-06            | 95.709      | 4.171   | 95.678     | 0.032     | 4.164   | 99.832                |
| 6337-1-07            | 95.579      | 4.177   | 95.558     | 0.022     | 4.169   | 99.809                |
| 6337-1-08            | 95.695      | 4.156   | 95.667     | 0.029     | 4.151   | 99.880                |
| 6337-1-09            | 95.654      | 4.177   | 95.629     | 0.026     | 4.171   | 99.856                |
| 6337-1-10            | 95.695      | 4.174   | 95.668     | 0.028     | 4.165   | 99.784                |
| Leakage (Yes/No)     |             |         | No         |           |         |                       |
| Venting (Yes/No)     |             |         | No         |           |         |                       |
| Disassembly (Yes/No) |             |         | No         |           |         |                       |
| Rupture (Yes/No)     |             |         | No         |           |         |                       |
| Fire (Yes/No)        |             |         | No         |           |         |                       |
| Result               |             |         | Pass       |           |         |                       |

## T2: Thermal Test

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Method:** Batteries are subjected to thermal shock of  $-40\pm 2^{\circ}\text{C}/72\pm 2^{\circ}\text{C}$ , 6hours dwell in each temperature, total of 10 cycles. The maximum time interval between test temperature extremes is 30minutes.

Each battery was then stored for 24hours at ambient temperature ( $20\pm 5^{\circ}\text{C}$ ) before final inspection for leakage of electrolyte, mass and OCV was measured.

**Charge Method:** 804 mA @ CV= 4.2 V up to 86.8 mA cutoff

**Discharge Method:** 804 mA up to 2.75 V

### Result:

| Sample No.           | Before test |         | After test |           |         |                       |
|----------------------|-------------|---------|------------|-----------|---------|-----------------------|
|                      | Mass        | Voltage | Mass       | Mass loss | Voltage | Voltage percentage(%) |
|                      | (g)         | (V)     | (g)        | (%)       | (V)     | not less than 90%     |
| 6337-1-01            | 95.695      | 4.153   | 95.664     | 0.032     | 4.101   | 98.748                |
| 6337-1-02            | 95.588      | 4.155   | 95.549     | 0.041     | 4.105   | 98.797                |
| 6337-1-03            | 95.770      | 4.156   | 95.727     | 0.045     | 4.104   | 98.749                |
| 6337-1-04            | 95.677      | 4.160   | 95.647     | 0.031     | 4.105   | 98.678                |
| 6337-1-05            | 95.707      | 4.161   | 95.654     | 0.055     | 4.104   | 98.630                |
| 6337-1-06            | 95.678      | 4.164   | 95.658     | 0.021     | 4.105   | 98.583                |
| 6337-1-07            | 95.558      | 4.169   | 95.520     | 0.040     | 4.109   | 98.561                |
| 6337-1-08            | 95.667      | 4.151   | 95.634     | 0.034     | 4.100   | 98.771                |
| 6337-1-09            | 95.629      | 4.171   | 95.587     | 0.044     | 4.109   | 98.514                |
| 6337-1-10            | 95.668      | 4.165   | 95.630     | 0.040     | 4.099   | 98.415                |
| Leakage (Yes/No)     |             |         | No         |           |         |                       |
| Venting (Yes/No)     |             |         | No         |           |         |                       |
| Disassembly (Yes/No) |             |         | No         |           |         |                       |
| Rupture (Yes/No)     |             |         | No         |           |         |                       |
| Fire (Yes/No)        |             |         | No         |           |         |                       |
| Result               |             |         | Pass       |           |         |                       |

### T3: Vibration

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Method:** The vibration shall be a sinusoidal waveform with a logarithmic sweep 7-200-7Hz in 15 minutes, 3 hours for each of three mutually perpendicular mounting positions of the batteries.

The logarithmic frequency sweep is as follows: from 7Hz a peak acceleration of 1g is maintained until 18Hz is reached. The amplitude is then maintained at 0.8mm (1.6mm total excursion) and the frequency increased until a peak acceleration of 8g occurs (approximately 50Hz). A peak acceleration of 8g is then maintained until the frequency is increased to 200Hz.

**Charge Method:** 804 mA @ CV= 4.2 V up to 86.8 mA cutoff

**Discharge Method:** 804 mA up to 2.75 V

**Result:**

| Sample No.           | Before test |         | After test |           |         |                       |
|----------------------|-------------|---------|------------|-----------|---------|-----------------------|
|                      | Mass        | Voltage | Mass       | Mass loss | Voltage | Voltage percentage(%) |
|                      | (g)         | (V)     | (g)        | (%)       | (V)     | not less than 90%     |
| 6337-1-01            | 95.664      | 4.101   | 95.681     | 0.000     | 4.100   | 99.976                |
| 6337-1-02            | 95.549      | 4.105   | 95.568     | 0.000     | 4.104   | 99.976                |
| 6337-1-03            | 95.727      | 4.104   | 95.750     | 0.000     | 4.103   | 99.976                |
| 6337-1-04            | 95.647      | 4.105   | 95.664     | 0.000     | 4.104   | 99.976                |
| 6337-1-05            | 95.654      | 4.104   | 95.680     | 0.000     | 4.104   | 100.000               |
| 6337-1-06            | 95.658      | 4.105   | 95.665     | 0.000     | 4.105   | 100.000               |
| 6337-1-07            | 95.520      | 4.109   | 95.534     | 0.000     | 4.108   | 99.976                |
| 6337-1-08            | 95.634      | 4.100   | 95.649     | 0.000     | 4.099   | 99.976                |
| 6337-1-09            | 95.587      | 4.109   | 95.603     | 0.000     | 4.108   | 99.976                |
| 6337-1-10            | 95.630      | 4.099   | 95.648     | 0.000     | 4.096   | 99.927                |
| Leakage (Yes/No)     |             |         | No         |           |         |                       |
| Venting (Yes/No)     |             |         | No         |           |         |                       |
| Disassembly (Yes/No) |             |         | No         |           |         |                       |
| Rupture (Yes/No)     |             |         | No         |           |         |                       |
| Fire (Yes/No)        |             |         | No         |           |         |                       |
| Result               |             |         | Pass       |           |         |                       |



## T4: Shock

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Method:** The shock shall be a half-sine shock of peak acceleration of 150g for 6ms. Battery shall be subjected to 3 shocks in the positive direction followed by 3 shocks in the negative direction of 3 mutually perpendicular mounting position.

Total of 18 shocks.

**Charge Method:** 804 mA @ CV= 4.2 V up to 86.8 mA cutoff

**Discharge Method:** 804 mA up to 2.75 V

### Result:

| Sample No.           | Before test |         | After test |           |         |                       |
|----------------------|-------------|---------|------------|-----------|---------|-----------------------|
|                      | Mass        | Voltage | Mass       | Mass loss | Voltage | Voltage percentage(%) |
|                      | (g)         | (V)     | (g)        | (%)       | (V)     | not less than 90%     |
| 6337-1-01            | 95.681      | 4.100   | 95.675     | 0.006     | 4.100   | 100.000               |
| 6337-1-02            | 95.568      | 4.104   | 95.557     | 0.012     | 4.104   | 100.000               |
| 6337-1-03            | 95.750      | 4.103   | 95.741     | 0.009     | 4.103   | 100.000               |
| 6337-1-04            | 95.664      | 4.104   | 95.658     | 0.006     | 4.104   | 100.000               |
| 6337-1-05            | 95.680      | 4.104   | 95.675     | 0.005     | 4.103   | 99.976                |
| 6337-1-06            | 95.665      | 4.105   | 95.659     | 0.006     | 4.104   | 99.976                |
| 6337-1-07            | 95.534      | 4.108   | 95.527     | 0.007     | 4.107   | 99.976                |
| 6337-1-08            | 95.649      | 4.099   | 95.641     | 0.008     | 4.099   | 100.000               |
| 6337-1-09            | 95.603      | 4.108   | 95.600     | 0.003     | 4.108   | 100.000               |
| 6337-1-10            | 95.648      | 4.096   | 95.643     | 0.005     | 4.095   | 99.976                |
| Leakage (Yes/No)     |             |         | No         |           |         |                       |
| Venting (Yes/No)     |             |         | No         |           |         |                       |
| Disassembly (Yes/No) |             |         | No         |           |         |                       |
| Rupture (Yes/No)     |             |         | No         |           |         |                       |
| Fire (Yes/No)        |             |         | No         |           |         |                       |
| Result               |             |         | Pass       |           |         |                       |



## T5: External short circuit

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Method:** The battery to be tested shall be temperature stabilized so that its external case temperature reaches  $57\pm 4^{\circ}\text{C}$  and then the battery shall be subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at  $57\pm 4^{\circ}\text{C}$ . This short circuit condition is continued for at least one hour after the battery external case temperature has returned to  $57\pm 4^{\circ}\text{C}$ . The battery must be observed for a further 6 hours for the test to be concluded.

**Charge Method:** 804 mA @ CV= 4.2 V up to 86.8 mA cutoff

**Discharge Method:** 804 mA up to 2.75 V

**Result:**

| Sample No. | Before test                                    |         | After test                       |             |          |          |
|------------|------------------------------------------------|---------|----------------------------------|-------------|----------|----------|
|            | Sample condition                               | Voltage | Maximum external temperature(°C) | Disassembly | Rupture  | Fire     |
|            |                                                | (V)     | less than 170°C                  | (Yes/No)    | (Yes/No) | (Yes/No) |
| 6337-1-01  | at first cycle, in fully charged states        | 4.100   | 55.244                           | No          | No       | No       |
| 6337-1-02  |                                                | 4.104   | 56.068                           | No          | No       | No       |
| 6337-1-03  |                                                | 4.103   | 55.875                           | No          | No       | No       |
| 6337-1-04  |                                                | 4.104   | 56.117                           | No          | No       | No       |
| 6337-1-05  |                                                | 4.103   | 56.027                           | No          | No       | No       |
| 6337-1-06  | after 25 cycles ending in fully charged states | 4.104   | 55.976                           | No          | No       | No       |
| 6337-1-07  |                                                | 4.107   | 55.619                           | No          | No       | No       |
| 6337-1-08  |                                                | 4.099   | 56.199                           | No          | No       | No       |
| 6337-1-09  |                                                | 4.108   | 55.876                           | No          | No       | No       |
| 6337-1-10  |                                                | 4.095   | 56.166                           | No          | No       | No       |
| Result     |                                                |         | Pass                             |             |          |          |

## T6: Impact / Crush

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Impact Method:** This test sample cell or component cell is to be placed on a flat smooth surface. A 15.8 mm diameter bar is to be placed across the center of the sample. A 9.1kg mass is to be dropped from a height of  $61 \pm 2.5$  cm onto the sample. The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the  $15.8 \text{ mm} \pm 0.1 \text{ mm}$  diameter curved surface lying across the center of the test sample. Each sample is to be subjected to only a single impact. Cells external temperature not exceed  $170^\circ\text{C}$ .

No disassembly, no fire within six hours of this test.

**Crush Method:** 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.

The applied force reaches  $13 \text{ kN} \pm 0.78 \text{ kN}$ .

The voltage of the cell drops by at least 100 mV.

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

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. Each sample external temperature do not exceed  $170^\circ\text{C}$ .

No disassembly, no fire within six hours of this test.

**Chose Method for this test:** Crush

**Charge Method:** 2989 mA @ CV= 4.2 V up to 85.4 mA cutoff

**Discharge Method:** 854 mA up to 2.5 V

**Result:**

| Sample No. | Before test                                         |         | After test                                       |             |          |             |
|------------|-----------------------------------------------------|---------|--------------------------------------------------|-------------|----------|-------------|
|            | Sample condition                                    | Voltage | Maximum external temperature( $^\circ\text{C}$ ) | Disassembly | Fire     | Result      |
|            |                                                     | (V)     | less than $170^\circ\text{C}$                    | (Yes/No)    | (Yes/No) | (pass/fail) |
| 6337-1-19  | first cycle at 50% of the design rated capacity     | 3.658   | 24.292                                           | No          | No       | Pass        |
| 6337-1-20  |                                                     | 3.665   | 24.279                                           | No          | No       | Pass        |
| 6337-1-21  |                                                     | 3.667   | 25.356                                           | No          | No       | Pass        |
| 6337-1-22  |                                                     | 3.667   | 25.856                                           | No          | No       | Pass        |
| 6337-1-23  |                                                     | 3.666   | 27.574                                           | No          | No       | Pass        |
| 6337-1-24  | After 25 cycles at 50% of the design rated capacity | 3.667   | 25.001                                           | No          | No       | Pass        |
| 6337-1-25  |                                                     | 3.666   | 24.676                                           | No          | No       | Pass        |
| 6337-1-26  |                                                     | 3.668   | 24.874                                           | No          | No       | Pass        |
| 6337-1-27  |                                                     | 3.666   | 23.376                                           | No          | No       | Pass        |
| 6337-1-28  |                                                     | 3.667   | 28.726                                           | No          | No       | Pass        |

## T7: Overcharge

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Method:** The charge current shall be twice the manufacture's recommended maximum continuous charge current. The minimum voltage of the test shall be 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.

**Charge Method:** 804 mA @ CV= 4.2 V up to 86.8 mA cutoff

**Discharge Method:** 804 mA up to 2.75 V

**Result:**

| Sample No.                               | Before test                                    |                      | Test condition |         |    |  |
|------------------------------------------|------------------------------------------------|----------------------|----------------|---------|----|--|
|                                          | Sample condition                               | Voltage              | Voltage        | Current |    |  |
|                                          |                                                | (V)                  | (V)            | (A)     |    |  |
| 6337-1-11                                | at first cycle, in fully charged states        | 4.197                | 8.5            | 5.6     |    |  |
| 6337-1-12                                |                                                | 4.179                |                |         |    |  |
| 6337-1-13                                |                                                | 4.193                |                |         |    |  |
| 6337-1-14                                |                                                | 4.155                |                |         |    |  |
| 6337-1-15                                | after 25 cycles ending in fully charged states | 4.168                |                |         |    |  |
| 6337-1-16                                |                                                | 4.162                |                |         |    |  |
| 6337-1-17                                |                                                | 4.160                |                |         |    |  |
| 6337-1-18                                |                                                | 4.176                |                |         |    |  |
| Battery Status within 7 days of the test |                                                | Disassembly (Yes/No) |                |         | No |  |
|                                          |                                                | Fire (Yes/No)        |                |         | No |  |
| Result                                   |                                                | Pass                 |                |         |    |  |



## T8: Forced Discharge

**Pack Model:** BT-000314

**Cell Model:** Panasonic sanyo#NCA596080SA

**Method:** Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12 Vdc. 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).

**Test Original Current:** 8A

**Test Period:** 32 min

**Result:**

| Sample No. | Before test                                |             | After test           |               |                    |
|------------|--------------------------------------------|-------------|----------------------|---------------|--------------------|
|            | Sample condition                           | Voltage (V) | Disassembly (Yes/No) | Fire (Yes/No) | Result (pass/fail) |
| 6337-1-29  | at first cycle in fully discharged         | 3.008       | No                   | No            | pass               |
| 6337-1-30  |                                            | 3.006       | No                   | No            | pass               |
| 6337-1-31  |                                            | 3.008       | No                   | No            | pass               |
| 6337-1-32  |                                            | 3.008       | No                   | No            | pass               |
| 6337-1-33  |                                            | 3.024       | No                   | No            | pass               |
| 6337-1-34  |                                            | 3.031       | No                   | No            | pass               |
| 6337-1-35  |                                            | 3.029       | No                   | No            | pass               |
| 6337-1-36  |                                            | 3.029       | No                   | No            | pass               |
| 6337-1-37  |                                            | 3.026       | No                   | No            | pass               |
| 6337-1-38  |                                            | 3.026       | No                   | No            | pass               |
| 6337-1-39  | after 25 cycles ending in fully discharged | 3.030       | No                   | No            | pass               |
| 6337-1-40  |                                            | 3.015       | No                   | No            | pass               |
| 6337-1-41  |                                            | 3.008       | No                   | No            | pass               |
| 6337-1-42  |                                            | 3.009       | No                   | No            | pass               |
| 6337-1-43  |                                            | 3.010       | No                   | No            | pass               |
| 6337-1-44  |                                            | 2.978       | No                   | No            | pass               |
| 6337-1-45  |                                            | 3.054       | No                   | No            | pass               |
| 6337-1-46  |                                            | 2.982       | No                   | No            | pass               |
| 6337-1-47  |                                            | 2.983       | No                   | No            | pass               |
| 6337-1-48  |                                            | 2.979       | No                   | No            | pass               |

## Sample Picture

Pack Model: BT-000314

Cell Model: Panasonic sanyo#NCA596080SA

