5. Detailed Specification

5.1Electrical specification

Items	Test conditions	Results
5.1.1 Full charge <standard charge>	Under 20±5℃, 65±5%RH, it can be charged to 4.2V with constant current of 0.2 C_5mA, and then, charged continuously with constant voltage of 4.2V until the charged current is less than 0.02 C_5mA.	Remark: it is standard charge method
5.1.2 Rated capacity	Under 20±5℃, charge the cell according to above charging method, then, keep it for 0.5-1hrs. Discharge the cell with constant current 0.2C_5mA to 2.75V, the discharging time is not less then 5 hours.	≥1800mAh
5.1.3 Cycle life	Discharge the cell with constant current 0.2C_5mA to 2.75V firstly, then, charged it for 2.5hrs by quick charging, keep it for 30mins. Discharge it with current 1C_5mA to 2.75V, this is one cycle. To do the cycle test for 300^t times.	Capacity≥ at least 80% of the rated capacity
5.1.4 Internal impedance	At 1kHz AC with fully charge state	Initial battery pack ≤180mΩ
5.1.5 Temperature performance	**Hi-temperature:** At 20±5℃, charge the cell according to standard charge, then, keep it in the oven of 55±2℃ for 2hrs. Discharge the cell with constant current of 0.5 C_5mA to 2.75V, the discharging time should be not less than 51 minutes.	
	Low temperature: At 20±5℃, charge the cell according to standard charge, then, keep it in the oven of -20±2℃ for 16～24 hrs. Discharge the cell with constant current 0.2 C_5mA, the discharge time should be not less than 3hrs.	
	Constant temperature & humidity: At 20±5℃, charge the cell according to standard charge, then, keep it in 40±2℃& 90~95%RH for 48hrs, after this, keep the cell in 20±5℃ for 2hrs. Discharge the cell with constant current of 0.5 C_5mA to 2.75V, the discharge time should be not less than 36mins.	
5.1.6 Storage	Storage for 28 days at 25℃.	Capacity ≥80%
	Storage for 7 days at 60℃.	Capacity ≥85%
5.1.7 Open circuit voltage	As of shipment	3.7 – 4.0V

6.1 Mechanical specification

Items	Test conditions
6.2.1 Vibration test	At 20±5℃ & normal atmospheric pressure, charge the cell according to standard charge. Then, vibrated it 10 times in each direction of X, Y, Z with changing frequency of 10~55HZ and amplitude of 0.35mm, the rate of scan frequency is from 10~55HZ per min. After above test, to keep the battery at 20±5℃ for 30mins, the battery cannot be break, scratch, distortion, contamination and leakage, and the Voltage is not less than 3.6V.
6.2.2 Free fall testing	At 20±5℃, charge the cell by standard charging, then drop it freely for six times in each direction of X, Y, Z from the height of 1000mm onto the hard board with the thickness of 20mm. After above testing, to keep the cell at (20±5)℃ for 1-2hrs, the cell cannot be break, scratch, distortion, contamination and leakage. Discharge the cell to 2.75V with constant current 0.2 C_5mA, it should be discharged and the discharge time should be not less than 51 minutes.

6.3Secure Specification

Items	Test conditions
6.3.1 Impact Testing	At 20±5℃, full charge the cell by standard charge, then, place the cell on the impact flat, a 10kgs weight dropped from 1m height onto cell, distortion is allowed. After above testing, to keep the battery at 20±5℃for 1-2hrs, the cell should be not exploded or catch fire.
6.3.2 Heat impact testing	Put the cell into a air oven, the temperature in the oven should rise at the rate of speed of (5±2℃)/min to be 130℃±2℃, keeping the temperature for 30 min, the cell should be not explosion, fire or fume.
6.3.3 Short-circuit test	At 20±5℃, full charged the cell by standard charge firstly, short-circuited it by max resistance of 50mΩ by connecting the positive and negative terminals of cell with copper wire, Monitor its temperature while testing, finish the test when the cell case temperature was 10℃lower than the peak temperature. The cell should be not explosion, fire.
6.3.4 Over-charged test	Connect the cell with a CC/CV power, then, charge the cell to 4.6V with constant 3A current, and last for 2hrs. The cell shall be not explode and fire.
6.3.5 Over-discharged test	At 20±5℃, charged the cell by standard charge firstly, then, discharge it with constant current 0.2 C_5mA to 2.75V. Connected with external load of 30Ω for 24hrs. The cell shall be not explode or fire.

7. Test Conditions

Temperature : 25±2℃ Relative humidity : 65±20%

8. Warranty

The period of validity of the cell is 12 months.