

Low Temperature Discharge Test Report

一、测试信息Test Information:

●Batch: HDD20 Model: 10440-280 3.2V 测试日期Test Date: 20230617

二、测试环境 Test Environment:

●温度Temperature: $25\pm 5^{\circ}\text{C}$; 湿度Humidity: 35%~75%; 大气压力Atmospheric pressure 86~106kPa

三、测试步骤Test steps:

①将1~4号电池以1C恒流恒压充电至3.65V, 限制电流0.02C

Charge batteries No. 1~4 to 3.65V with 1C constant current and constant voltage, limiting current to 0.02C;

②搁置1min;

Set aside for 1min;

③将1~4号电池以1C恒流放电2.0V, 记录容量;

Discharge batteries 1~4 to 2.0V at 1C constant current and record capacity;

④将1~2号电池放入温度为 $0\pm 1^{\circ}\text{C}$ 的高低温箱中放置3h后, 以0.2C恒流放电至2.0V, 记录容量; 将1~2号电池取出常温搁置2h之后按照步骤①将电池充满电放置待测;

Place batteries 1~2 in a high and low temperature chamber at a temperature of $0\pm 1^{\circ}\text{C}$ for 3h and then discharge to 2.0V at a constant current of 0.2C and record the capacity; remove batteries 1~2 and leave them at room temperature for 2h and then place them fully charged according to step ① to be tested;

⑤同时高低温箱温度降到 $-5\pm 1^{\circ}\text{C}$, 将3~4号电池按照步骤④的测试方式进行测试并记录容量;

At the same time, lower the temperature of the high and low temperature chamber to $-5\pm 1^{\circ}\text{C}$, test batteries No. 3~4 in accordance with step ④ and record the capacity;

⑥之后将高低温箱温度分别设置为 $-10\pm 1^{\circ}\text{C}$ 、 $-15\pm 1^{\circ}\text{C}$ 、 $-20\pm 1^{\circ}\text{C}$, 交替用两组电池进行步骤④的测试;

Afterwards, set the temperature of the high and low temperature chamber to $-10\pm 1^{\circ}\text{C}$, $-15\pm 1^{\circ}\text{C}$ and $-20\pm 1^{\circ}\text{C}$ respectively, and alternately use two sets of batteries for the test in step ④

四、测试数据Test data:

Sample number	Discharge capacity at different temperatures mAh							
	$25\pm 5^{\circ}\text{C}$	$0\pm 1^{\circ}\text{C}$	$-5\pm 1^{\circ}\text{C}$	$-10\pm 1^{\circ}\text{C}$	$-15\pm 1^{\circ}\text{C}$	$-20\pm 1^{\circ}\text{C}$		
1#	222	216.9	206.5	200.6	192.5	175.2		
2#	223.4	218.7	208.2	201.5	193.8	173.1		
3#	239.6	232.8	224.1	218.7	211.7	189.5		
4#	223	219.1	208.3	202.7	195.3	178.2		

判定: 合格 ☒

不合格

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测试人:

审核:

批准: