

1. Test Name: High/Low Voltage Disconnect

Test Author: Andrew and Xiaolong

The high voltage disconnect is integrated to protect the battery from overcharging and low voltage disconnect is integrated to disconnect the USB and fan so the battery will have enough power to restart the system for one hour.

2. Required Equipment

	Equipment Description	Quantity	Settings
1	Power Supply	2	PS1: 12V PS2: Variable
2	Oscilloscope	1	Trigger on the rising/falling edge
3	HV/LV disconnect system	1	

Table 1: Required equipment and its settings.

3. Test Procedure

- Step 1: Build the HV/LV disconnects system as seen in the system schematic.
- Step 2: Connect the power supply to the +12V rails of the circuit.
- Step 3: Connect the output of power supply two to the battery terminal pins of the circuit.
- Step 4: Adjust the output of power supply two to 6.2V, slowly increase it by hundredths of a volt until the battery is disconnected from the circuit. Record the voltage.
- Step 5: Adjust the output of power supply two to 5.8V, slowly decrease it by hundredths of a volt until the USB output and fan output are disconnected. Record the voltage.

4. Test Results

Step #	Description	Spec	Measurement
1	High Voltage Disconnect Voltage	Voltage: 6.2V +/- 5%	6.24V
2	Low Voltage Disconnect Voltage	Voltage: 5.8V +/- 5%	5.8V

Table 2: The results of the test procedure.

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5. Pass/Fail

Did the unit pass or fail the test? Defend your decision.

PASS	FAIL

Table 3: PASS/FAIL