1. Appearance
Purpose:see whether there are missing or malposed components, damages on board or something wrong with soldering and connection.
Method: automating inspection or manual inspection by trained personnel.
Equipment: automated inspection system, magnifying equipment, tweezers.

2. Output Voltage
Purpose: make sure the DPS provides the correct output voltages (5V and 12V).
Method: measure the output voltages without any load.
Equipment: digital multimeter, automated test equipment.

3. Load
Purpose: see whether DPS maintains specified output voltages under maximum load conditions (20mA).
Method: apply a 20mA load to each output and measure the voltage.
Equipment: load simulator, digital multimeter.

4. Efficiency
Purpose: check whether the efficiency of the DPS reaches 60% with a 20 mA current load on either output.
Method: calculate efficiency by measuring input power and output power under load.
Equipment: load simulator, digital multimeter.

5. Short Circuit
Purpose: ensure that the DPS can deals with a short circuit on its outputs within 30mA current.
Method: short-circuit each output respectively and measure the current.
Equipment: digital multimeter, short-circuit simulation tool.

6. Temperature
Purpose: see whether the DPS operates correctly in fixed temperature range.
Method: operate the DPS in a temperature-controlled chamber and check the performance.
Equipment: temperature chamber.

7. Input Voltage
Purpose: see whether the DPS can operate in the input voltage range (2.7V to 5.8V).
Method: gradually increase the input voltage from the lowest to check the functionality.
Equipment:power supply, digital multimeter.

8. Weight
Purpose: ensure the total weight of DPS is less than 25g.
Method: weigh each board(system) on a electronic scale.
Equipment: electronic scale.