

Reverse Engineering Challenge

Dec 5, 2022 12:00 AM. Fri, Jan 13, 2023

Team Name - CHZ&Crackerz.

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What kind of device did you choose to explore, and why? A solar power bank. We were interested in how the solar sheet charges the power bank, and how the whole machine works.

What identifiable parts did you find during deconstruction? Power Bank case, Solar sheet, Compass, lithium-ion battery, and PCB.

What role does each component play in the system? The case hides away all the parts of the components and has the USB ports. Solar sheet is the one that absorbs the sunlight to give power to the power bank. The compass makes you see the directions.

What did you learn from exploring your electronic device? We learned the simplicity the device has. We thought it would be much more Advanced, and have a lot more parts in it but that wasn't the case. We learned from it that electronic devices don't have to be that advanced and should keep it simple.

Before: Front Side



Solar Sheet.

Power Bank Case.

Solar Sheet - It absorbs the sunlight and converts it into energy that goes through the battery.

Power Bank Case - Main purpose is to cover up all the parts of the power bank.

Before: Back Side



Mini-Compass.

Back Of The Case.

Mini-Compass - See what direction you're in.

Back Of The Case - Protects the opposite side of the components, and where it all rests at.

Power Bank Opened



Lithium-ion Battery.

PCB.

Power Bank Case.

Lithium-ion Battery - Powers up the PCB.

PCB - The PCB is used to provide electrical connection and mechanical support to the electrical components of a circuit.

Power Bank Case - Protects the components.

lithium-ion battery



Lithium-ion Battery - Main source of power. It gets power from the Solar sheet, and converts it to the energy needed to power the PCB which makes the device work.

Power Bank Case



Back of the case with miniature compass.

USB Cover.

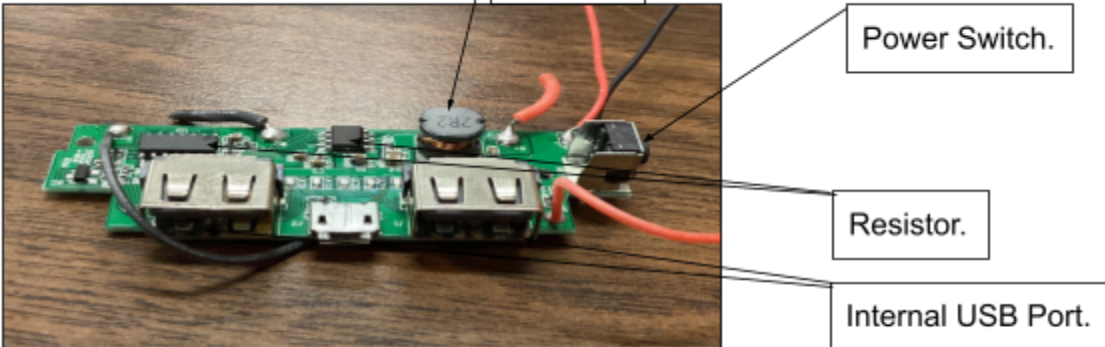
Middle cover with glue.

Back Of The Case w/ Compass - Protects the components from the back, and find directions.

USB Cover - Covers the Internal USB port for protection.

Middle cover w/ Glue - Combines the Front and Back cover, and has glue for the Solar Sheet.

Front PCB



Resistor - The Main function of it is to resist the flow of current by dissipating electric power as heat.

Inductor - They slow down current surges or spikes by temporarily storing energy in an electromagnetic field and then releasing it back into the circuit.

Internal USB Port - Gives the Power that the device created to charge or give power to Electronics.

Power Switch - A Power Switch provides an electrical connection from a voltage source or ground to a load.

