Phone Power Monitoring with... BattOr!
Catching Joule Thieves on the Run

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We need a mobile phone power monitor that can:

• Connect to the phone and battery easily.
• Store power measurements while mobile.
• Stream power measurements while stationary.
• Collect hundreds of samples per second.

BattOr is an open source portable power monitor that streams and stores measurements.

The Schematic

ADC0 measures the voltage drop over the shunt resistor inserted between the battery's -- pin and the phone's — pin. ADC1 measures the voltage of the battery.

The Battery Interceptor

A power monitor must intercept the connection between the battery and the phone.

Ordinary printer paper sandwiched between copper tape conductors isolates them.

Syncing Measurements

To synchronize power measurements with the application, the developer leaves a unique signature in the power signal. In this example, the application alternates the brightness.

Existing Power Monitors

Existing power monitors are large and they require external storage and power.

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