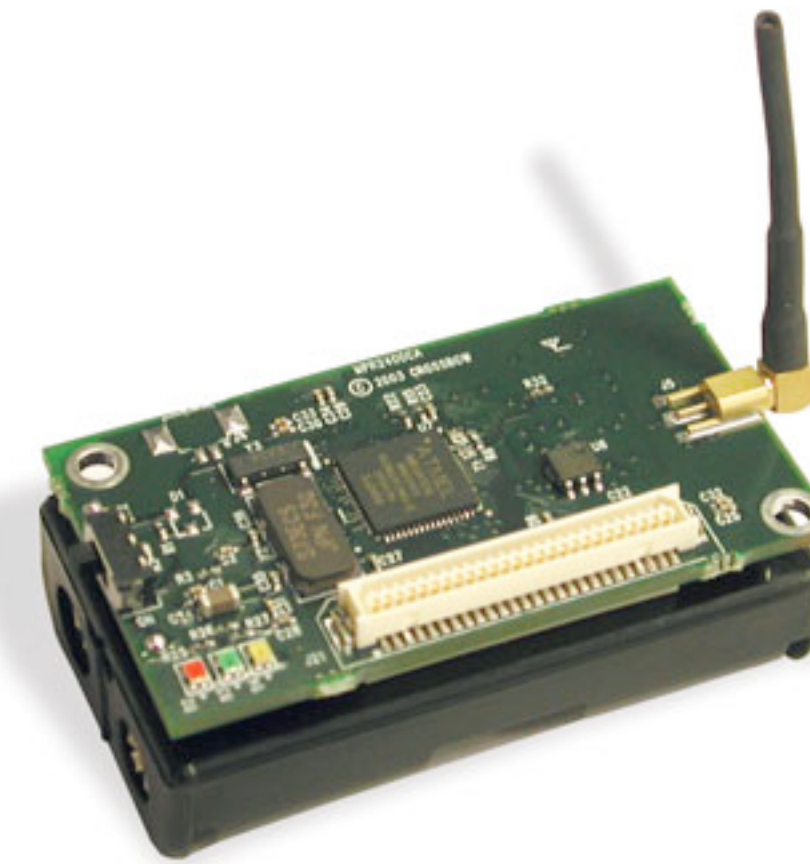


# Wireless Sensor Data Acquisition Network

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## Theory and Background

Wireless sensor data acquisition networks have been developed to be used in any situation where an environment needs to be monitored and then possibly respond to changes in the environment. The research that I have been exploring with professor Judith Cardell explores the use of wireless sensor data acquisition networks for use on the national power grid. The stabilization of the national power grid is of utmost importance and a data acquisition network can not only help it become more stable--and therefore less vulnerable to black-outs--but it can also help integrate alternative energy solutions into the power supply as well. In the future we would like to explore the use of sensors which monitor electricity, but until that technology is further developed we are using sensors that acquire data about light and temperature.



This is a MicaZ mote made by Crossbow® takes the information gathered by a sensor board which it attached to it and then wirelessly sends the data to a base station.

I was able to set up a wireless network after the semester ended and after I was finally able to communicate with the company's user support group.

## Procedure & Method

My goal for this independent study was to be able to successfully create and implement a wireless sensor data acquisition network which could monitor its surroundings and supply the data to a database for further study. The difficulty presented in this independent study is the extreme short amount of time this product has been on the market. Because of this there is little information and support for those trying to use the technology.

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