**Wireless Power Transmission**

**Technology Description**

Researchers have developed technology that converts any wall outlet, vehicle charger, or power source into a smart electrical power router and antenna. The technology sends directed power on demand to operate or recharge electronic devices. It has a wireless recharging capability range greater than 10 ft.

Diagram, text

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Figure 1. How wireless power transmission works.

A picture containing diagram

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Figure 2. Duty cycle comparison from the power management unit for single transmitter versus beam-steered multiple transmitter scenarios.

**Stage of Research**

Researchers have demonstrated the technology with prototypes using modified commercial-off-the-shelf components. They have successfully demonstrated three (3) transmitters transmitting 1 Watt at 2.4 Ghz. The receiver was able to harvest greater than 125 mA at greater than 5 V while in motion. They have also demonstrated the technology wirelessly recharging a common cell phone and in a U.S. Department of Defense fighter jet pilot helmet application.

**Applications**

Various electrical power and recharging applications including:

* Mobile phones and other electronic devices
* Home appliances
* Electric vehicles

**Key Advantages**

* Greater autonomy
* Shorter charge-times and lower power costs
* Fewer negative environmental impacts