

Energous at CES shows wire-free charging tech

January 7 2015, by Nancy Owano



Once upon a time the hassle of looking for a plug to charge your phone was not that big a deal. In 2015, the phone is but one of numerous devices a person may have to power up. Charging is a hassle not only for phones; there are tablets and wearables and assorted home devices, and then there are the battery-powered learning toys. San Jose, California-based Energous is a company that hopes to make device owners relax in

a WattUp wire-free charging zone.

The receivers convert those radio waves into DC power, which in turn charges the receiver's battery. The company has made an appearance at this year's CES to show off their WattUp technology. A Radio Frequency system delivers wire-free [charging](#) energy at a distance of up to 5m (15ft) from a transmitter to a receiver device. No cables. No pads. Within a 30-foot space, the user can get a charge of multiple devices up to 15 feet and 12 receiver devices can be managed by the system simultaneously. Stephen Rizzone, CEO, said, "We believe we are the only CES exhibitor to be demonstrating true wire-free charging technology that lets users roam while their devices charge."

But what is WattUp? First, there is the power router (transmitter): The power router scans the local environment with low power beams in order to determine in which directions to form beams to a particular receiver. These beams include reflected beams from walls, ceiling, floor, furniture and other inanimate objects in the vicinity. The collective converging paths of all the beams deliver the energy to the receiving device's antennas.

Then, there is the WattUp receiver technology which uses multiple antennas to collect the micro energy beams created by the transmitter. Energous said, "This smart antenna [technology](#), known as MIMO, means power is delivered in smaller, safer, bite-sized amounts." The router will only transmit the micro energy beams when requested by the receiver, and only after it establishes a continuous link with the receiver.

Then there is the software. The process is software-controlled. "Using either our app or cloud-based web portal, you are able to identify which devices you want to receive power, how much power to send to each device, and even at what times you want them charging." It's a customizable charging system. The user might prioritize device charging,

doing phones and tablets during peak hours of use but setting the system to charge a television remote or fitness tracker while the user sleeps.

How long does it take? Charging times vary; the times are determined by the number of devices being charged and allocation of available [power](#) to each [device](#).

Michael Leabman, CTO and founder, is an MIT graduate who studied electrical engineering; he presented the router in a video demo, to demonstrate charging. He said the energy router was shown on a tripod in the video but one can imagine it being on your desk at home, on a shelf, or at a coffee house.

According to the company site, Energous will initially license WattUp to the mobile accessory market, with an eye toward expanding to other markets over time.

More information: www.energous.com/overview/

[ir.energous.com/press-releases ... free-charging-during](http://ir.energous.com/press-releases...free-charging-during)

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