Dialog Semiconductor and Energous

Dialog Semiconductor has partnered with Energous Corporation, developer of WattUp® - an award-winning, wire-free charging technology that will transform the way consumers and industries charge and power electronic devices at home, in the office, in the car and beyond.

WattUp is a revolutionary radio frequency (RF) based charging solution that delivers intelligent, scalable power via radio bands, similar to a Wi-Fi router. WattUp differs from older wireless charging systems in that it delivers power at a distance, to multiple devices - thus resulting in a wire-free experience that saves users from having to plug in their devices. WattUp technology is provided to Dialog under license from Energous Corporation.

WATTUP WIRE-FREE CHARGING ECOSYSTEM

Near Field WattUp Transmitter Design

Representing the smallest and lowest cost WattUp transmitter option, the Near Field WattUp Transmitter Design is intended to be an in-box solution for many small electronics, ultimately replacing the USB cable and power adapter typically included in the box. This solution provides the convenience and waterproofing benefits of wireless charging without significantly affecting the overall BOM cost. The Near Field WattUp transmitter technology can also be embedded into laptops, tablets, game consoles, furniture, and other devices.

Mid Field WattUp Transmitter Design

This transmitter reference design represents a desktop or close-distance charging design of 2-3 feet. Imagine all the small devices on your desk, table or front seat area of your car all charging without having to be plugged in. The Mid Field WattUp transmitter technology can be designed into the bezel of your monitor, as part of a small sound bar, desktop speaker or other similar devices as well as a standalone design. Software control allows for multiple devices to charge simultaneously at different levels with complete authorization and prioritization capability.

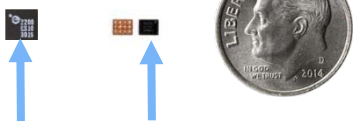
Far Field WattUp Transmitter Design

The Far Field WattUp transmitter represents the furthest distance charging. A far field transmitter may be embedded into the bezel of a TV, sound bar or may be mounted on the wall or ceiling. This design enables maximum coverage and allows meshed network coverage where multiple transmitters are linked together to cover larger spaces. Just like the Mid Field design, the Far Field transmitter is fully software controlled.

www.dialog-semiconductor.com/wireless-charging

WattUp Receiver Technology Can Be Embedded Into a Virtually Limitless Number of Different Devices

RF-Power Receiver ICs



3mm x 3mm (DA2210)

1.69mm x 1.39mm (DA2223)

Computer Accessories
- Keyboard
- Mice
- Drawing Tablets
- Webcams
- Wi-Fi Routers
- Presentation Pointers
- & More

Mobile Electronics
- Smartphones
- Tablets
- Bluetooth Headsets
- Smart Watches
- Fitness Activity Trackers
- & More

Home
- Motion Sensors
- Security Cameras
- Lighting
- TV Remote
- Game Controllers
- Smoke Alarms
- & More

Personal Devices
- Hair Trimmers
- Electronic Toothbrushes
- Razors
- Medical Monitors
- E-Cigarettes
- Hearing Aids
- Smart Glasses & More

WattUp Receiver Technology- Tiny Footprint Opens Up Many Markets

WattUp receiver technology uses multiple antennas to collect the micro energy beams created by the transmitter. This smart antenna technology means power is delivered in small, safe amounts. WattUp uses pocket-forming technology to accurately direct energy to the receiver. The technology dynamically adjusts the shape and content of the RF waves so they can be directed to a specific location in 3D space. There, the energy is gathered by the receiver's special antennas where WattUp ASICs convert the RF signal to DC current, delivering a charge to the battery.

WattUp is Software Controlled for Maximum Convenience and Power

- Shows power received at the battery for each receiver
- Able to control transmit power in ¼ W increments
- Supports development level debugging for transmitter and receiver (logs)
- Supports over-the-air firmware upgrade for transmitter and receiver
- Shows battery level details
- Lets user schedule priority, time/day schedule and rules for charging each device
- Supports force mode transmit for debugging and regulatory testing

Dialog Semiconductor Worldwide Sales Offices - www.dialog-semiconductor.com email: enquiry@diasemi.com

United Kingdom
Phone: +44 1793 757700

The Netherlands
Phone: +31 73 640 8822

Japan
Phone: +81 3 5769 5100

Singapore
Phone: +65 648 499 29

Korea
Phone: +82 2 3469 8200

Germany
Phone: +49 7021 805-0

North America
Phone: +1 408 845 8500

Taiwan
Phone: +886 281 786 222

Hong Kong
Phone: +852 2607 4271

China (Shenzhen)
Phone: +86 755 2981 3669

China (Shanghai)
Phone: +86 21 5424 9058