

1W PowerBridge with Omni-directional Antennas Developer Kit

This energy harvesting developer kit combines Energoous' radio frequency (RF) solution with e-Peas' power management IC technology to support at-a-distance wireless charging applications for smart buildings, industrial IoT sensors, retail electronic displays and more.

The 1W PowerBridge with omni-directional antennas transmitter incorporates the EN4100 and EN3210 devices. The EN4100 is a highly integrated System-on-Chip (SoC) RF transmitter IC, while the EN3210 is a 1W, high-efficiency power amplifier (PA).

On the receiver side, there are 3 input paths available to choose from based on use case, including discrete diode and EN2223 RF-to-DC implementations, which connect to the AEM30940 ambient energy manager chip.



Kit Contents

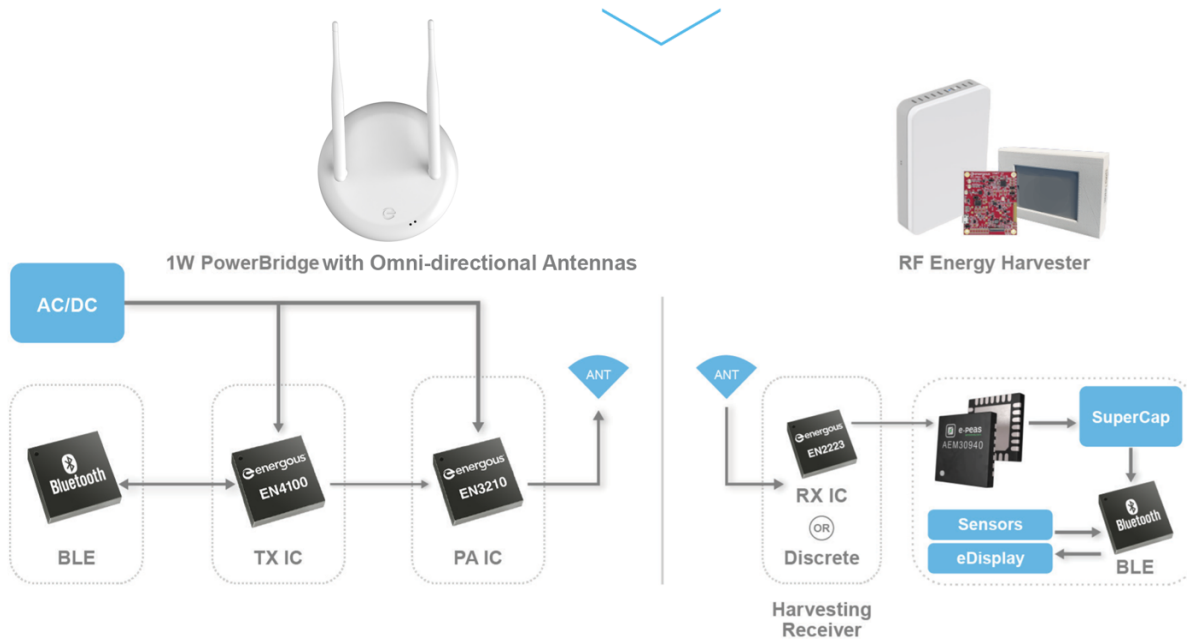
- 1W PowerBridge Transmitter with Omni-directional Antennas
- Reference Design Receiver Hardware
- Mobile App to Monitor and Control TX/RX
- TX/RX Schematics and Layout Files
- TX/RX Mechanical Files

Applications

- Smart Buildings
 - Temperature/humidity occupancy sensors
 - Window/door sensors
- Industrial IoT
 - ESL for warehouse operations
 - Air quality/CO2 monitor
 - Cold storage chain monitoring
- Retail Electronic Displays
 - ESL for retail shelving
 - ESL for cold storage
 - Smart shopping carts



1W PowerBridge with Omni-directional Antennas Wireless Charging Developer Kit Block Diagram



Receiver Board

- E-Peas AEM30940 Harvesting PMIC with Super Capacitor or Rechargeable Lithium Battery Support
- Low Voltage Operation from 50 mV to 5V
- Cold Start from 380 mV Input Voltage
- BLE Sensor Hub with Example Sensors (Ambient Light and Temperature/Humidity)
- Optional E-ink Ultra-Low-Power Display
- On-board or External BLE Antenna

Transmitter

- EN3210 Power Amplifier
- EN4100 TX-IC
- BLE Communication
- Omni-Directional Antennas

Receiver Options

- IoT Sensor with 10 mF Super Capacitor that Reports Temp, Humidity, and Light Intensity
- Electronic Shelf Label (ESL) with 77 mF Super Capacitor that can Update the E-ink Display

For more information or to order,
please contact: sales@energous.com



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