

Eagle (1W) PowerBridge Developer Kit

This energy harvesting developer kit combines Energo's 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 Eagle (1W) PowerBridge 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

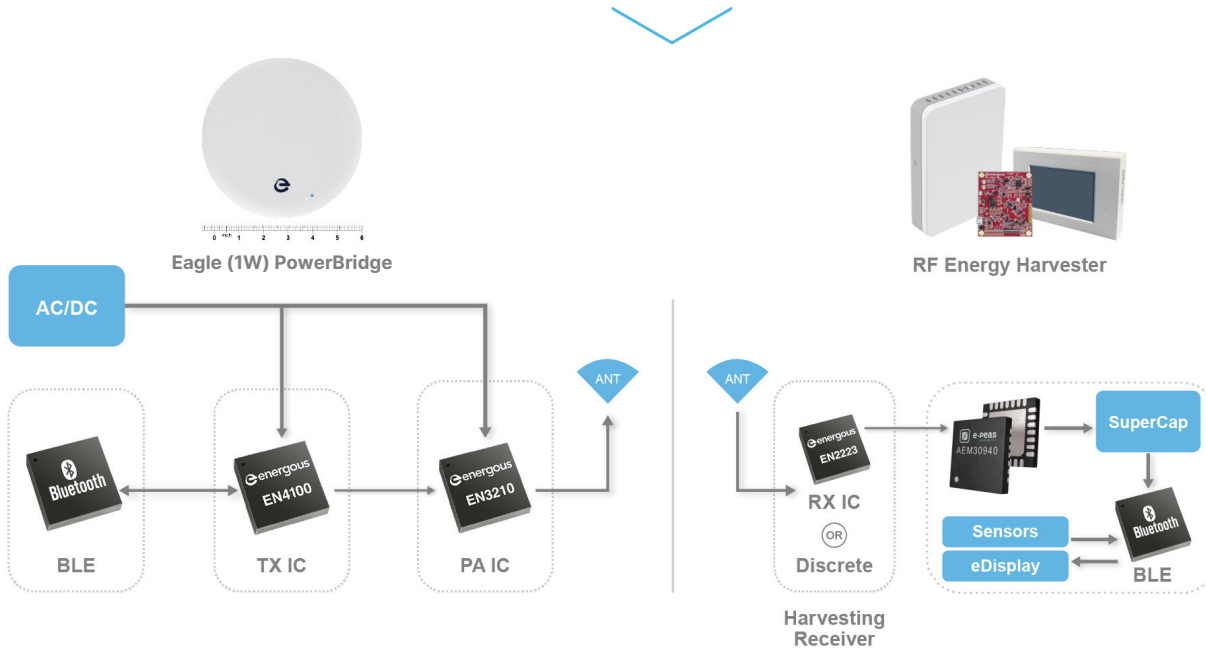
- Eagle (1W) PowerBridge Transmitter
- Reference Design Receiver Hardware
- Mobile App to Monitor and Control TX/RX
- TX/RX Schematics and Layout files
- TX/RX Mechanical files

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



Eagle (1W) PowerBridge Wireless Charging Developer Kit Block Diagram



Receiver Board

- e-Peas AEM30940 Harvesting PMIC with Supercap or rechargeable Lithium battery support
- Low Voltage Operation from 50mV to 5V
- Cold Start from 380mV 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

Receiver Options

- IoT Sensor with 10 mF Supercap That Reports Temp/ Humidity and Light Intensity
- Electronic Shelf Label (ESL) with 77 mF Supercap That Can Update E-ink Display

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

This publication is issued to provide outline information only, which unless agreed by Energous Corporation may not be used, applied, or reproduced for any purpose or be regarded as a representation relating to products.

Energous, and the Energous logo is a trademark of Energous Corporation. All other product or service names are the property of their respective owners. © Copyright 2024 Energous Corporation. All rights reserved.



Scan to Download this Document



3590 N 1st Street, Suite 210 | San Jose, CA 95134 | (408) 963-0200