



Lifetime Power[®] Energy Harvesting Development Kit for Battery Charging

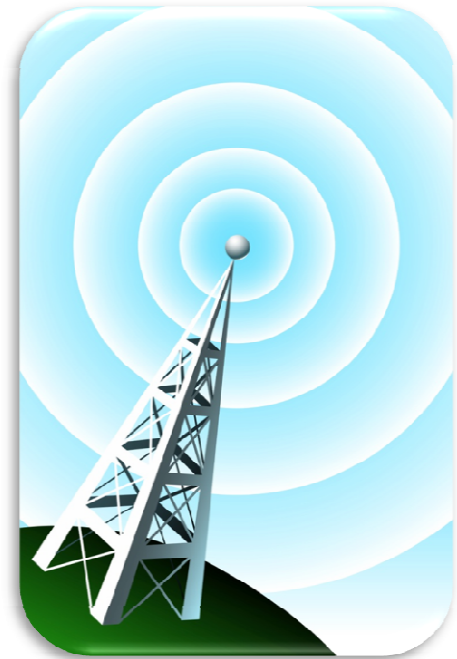
P2110-EVAL-02

Powercast Technology Overview

- Delivers micro-power over distance using common radio waves
 - microwatts(μ W) to low milliwatts (mW)
- Green/CleanTech power solution
 - eliminates wires, simplifies installation
 - reduces/eliminates battery replacement
 - provides lifetime power
 - hazardous material shipping & disposal costs reduced or eliminated

Why RF Power?

- Wire-free Operation
 - Untethered placement and mobility
 - Operates anywhere in range of a suitable RF power source
 - One-to-many charging
- Reliable
 - Power source is controlled/deterministic
 - Available on demand
 - Minimal effects from weather / time-of-day
- End product differentiation
 - Sealable / waterproof
 - Zero maintenance



A complete development kit for wirelessly charging batteries for micro-power applications.

P2110-EVAL-02



- Charging range of 40-45 feet with included patch antenna
- Charges multiple battery types and includes THINERGY® Micro-Energy Cell
- Connects to THINERGY® ADP and includes TI eZ430-RF2500 wireless kit

Kit Components

3-watt, 915MHz Powercaster™ Transmitter

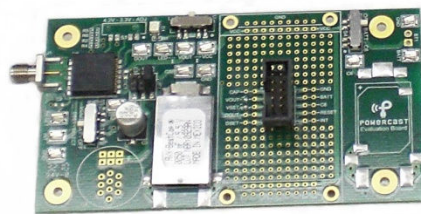


Receiving Antennas

TI eZ430-RF2500 Development Tool



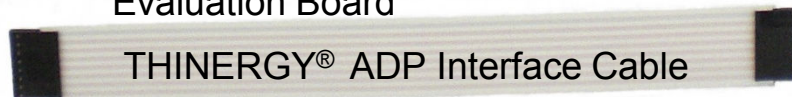
Battery Charging
Interface Board



P2110CSR Powerharvester®
Evaluation Board



THINERGY®
Evaluation Card



THINERGY® ADP Interface Cable



End Device



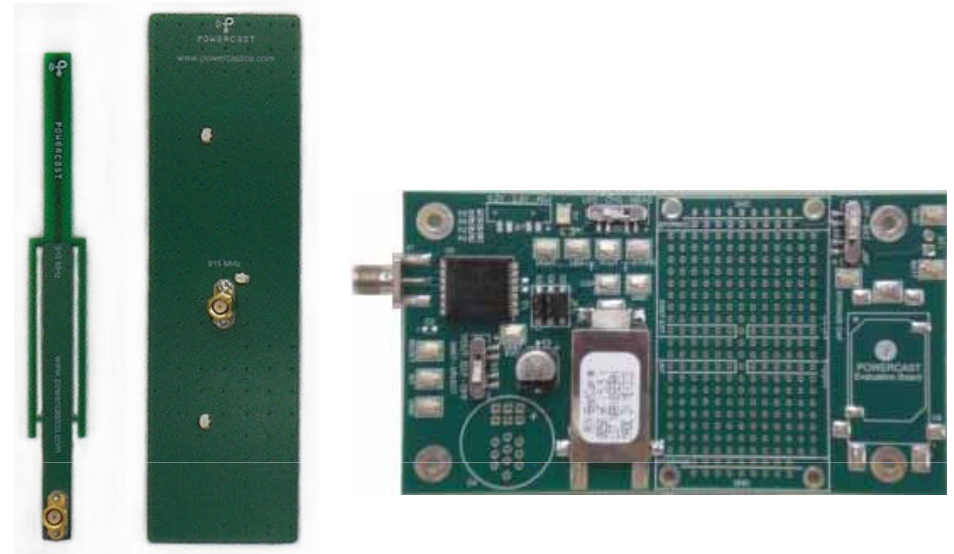
Access Point

Power Source



Transmitter Features:

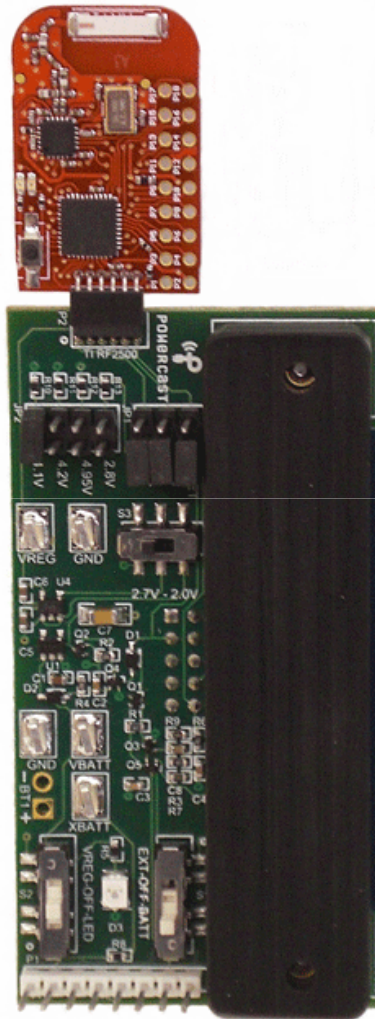
- 915MHz, 3-watt transmitter
- Transmits power and data
- 8dBi integrated antenna
- Dual DC power jacks
- Powers multiple receivers



Receiver Features:

- P2110CSR Powerharvester[®]
- Receives power and data
- Converts RF to DC
- Charge / Power management
- I/O for interface to MCU

Charging Board



BAT-EVAL-01

Features:

- Charge to local battery or IPS ADP
 - Connector for IPS THINERGY® Card
 - Terminals for AA, AAA size batteries
 - Header for IPS THINERGY® ADP
- “Energy Harvesting” Connector
 - TI eZ430-RF2500 wireless board
 - Microchip XLP 16-bit Dev. Board
- Under-voltage cut-off – 2.1V
- Output load switch
 - Regulated output – 2.0 or 2.7V
 - LED for fast discharge
- Attaches to P2110 evaluation board
- I/O for P2110 Powerharvester®

THINERGY® Evaluation Card



Features:

- Credit-card size form factor
- Keyed for proper insertion
- Also works with THINERGY® ADP

Charging to THINERGY® ADP

Both “Pass-Thru” and “Gated”
modes supported on ADP

THINERGY®
Application
Development
Platform

THINERGY®
Evaluation Card

8-wire Cable

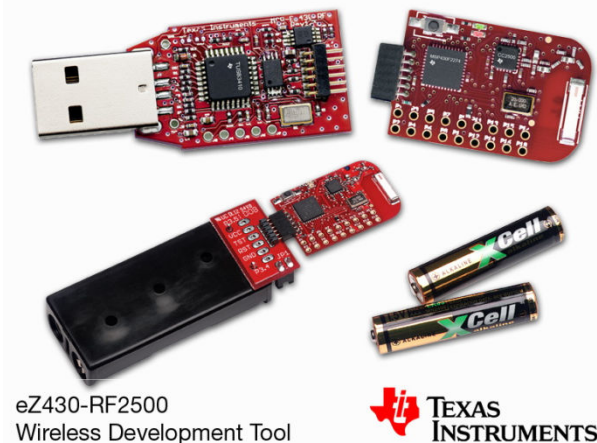
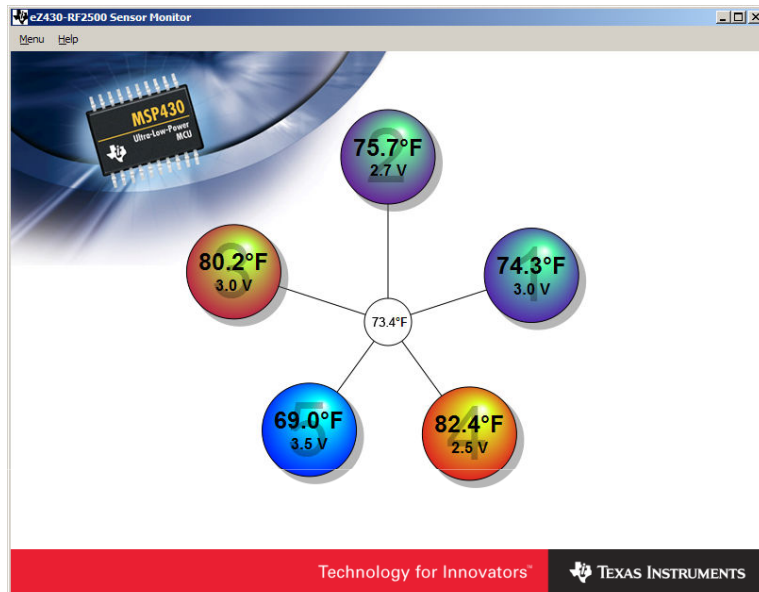
Antenna

P2110CSR Powerharvester®
Evaluation Board

Charging Board

THINERGY® ADP is sold by Infinite Power Solutions

TI eZ430-RF2500 Wireless Kit



- Out-of-the-box application to demonstrate remote charging
- End device operates directly from Powercast Charging Board
- PC application and source code provided by Texas Instruments

<http://focus.ti.com/docs/toolsw/folders/print/ez430-rf2500.html>

More Information / Ordering

P2110-EVAL-02

Product Listing

<http://www.powercastco.com/products/development-kits/>

Product Support Information

<http://www.powercastco.com/resources/>

Distributors – online ordering



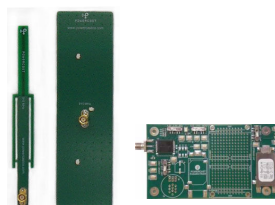
<http://www.FutureElectronics.com>



<http://www.mouser.com/powercast/>

Battery Charging Solutions

P1110-EVB



P2110-EVAL-02



Item	P1110-EVB	P2110-EVAL-02
Charging Method	Continuous	Pulsed / Intermittent
Output Voltage Range	1.8V - 4.2V for P1110	2V – 5.5V for P2110CSR
Output Voltage	Output voltage floats with the battery voltage until the configured maximum output voltage is reached.	Fixed, regulated output voltage. Controlled by the P2110CSR-EVB
Usage	Direct power OR Battery-charging (direct connection to typical battery, additional circuitry for thin-film)	Pulsed power OR Battery-charging (additional circuitry typically required)
Operating / Charging Range (with identical antennas)	Shorter – roughly half as far as the P2110.	Longer – roughly twice as far as the P1110.
Undervoltage cut-off	Not available – P1110 will draw 1.5uA of current when no RF energy present	Set to 2.1V (for THINERGY MEC)
Transmitter	Not included (sold separately)	3W transmitter included