

## Solar energy harvesting kit from TI enables permanently-powered wireless sensor networks



Texas Instruments Logo. (PRNewsFoto/Texas Instruments Incorporated)

DALLAS, TX UNITED STATES

eZ430-RF2500-SEH kit combines Cymbet's EnerChip(TM) thin-film battery solution with TI's ultra-low power MSP430 MCU and RF technology

DALLAS, Jan. 19 /PRNewswire/ -- As wireless network systems designers look to alternative energy sources, Texas Instruments Incorporated (TI) (NYSE: [TXN](#)) announced a solar energy harvesting (SEH) development kit that converts ambient light into power for industrial, transportation, agricultural and commercial applications. The credit card-sized eZ430-RF2500-SEH kit combines Cymbet Corporation's EnerChip(TM) thin-film battery technology with TI's MSP430 microcontrollers (MCU), CC2500 radio frequency (RF) transceivers and the eZ430-RF2500 development tool. Developers can now build self powered solar-based wireless sensor networks, eliminating system batteries, which cost time and money to periodically replace, especially in remote locations. The \$149 eZ430-RF2500-SEH kit is sampling now and is available via the TI e-store or authorized distributors ([www.ti.com/ez430-RF2500-SEHpr](http://www.ti.com/ez430-RF2500-SEHpr)).

In remote or hard-to access environments, wireless sensors are becoming increasingly integrated and miniaturized. Until now, designers typically powered wireless devices via storage components such as coin cell or AA batteries. However, these storage technologies do not supply the right mix of charging, storage, discharge and physical size characteristics to provide permanent power for wireless devices. Now, the combination of Cymbet's EnerChip batteries with TI's MSP430 MCU and CC2500 RF technology allows energy harvesters to achieve more efficient storage, processing and transmission in both bright and low light environments.

### eZ430-RF2500-SEH key features and benefits

- A high efficiency solar panel connected through the EnerChip energy harvesting module delivers enough power to run the wireless application even under low ambient light.
- Based on Cymbet's EnerChip solid-state lithium thin-film battery technology, which increases conversion efficiencies when storing and starting power in energy harvesting modules.
- Cymbet EnerChips are environmentally friendly, rechargeable and so efficient they can send up to 400 transmissions from a single charge when no ambient light is available.
- TI's USB-based eZ430-RF2500 tool provides hardware and software to program an MSP430 MCU and low power wireless transceiver on a postage stamp-sized target board.
- MSP430 MCU's ultra-low power, fast wake-up time and system-on-chip (SoC) peripheral integration saves board space while enabling maintenance-free, self-powered sensors.
- CC2500 RF transceivers operate in the 2.4-GHz range, making them ideally suited for reliable, low-cost digital wireless applications.

Find out more about TI's eZ430-RF2500-SEH demonstration kit by visiting the links below:

- eZ430-RF2500-SEH: [www.ti.com/ez430-RF2500-SEH](http://www.ti.com/ez430-RF2500-SEH)
- MSP430 tools page: [www.ti.com/msp430tools](http://www.ti.com/msp430tools)
- eZ430-RF2500 development tool: [www.ti.com/ez430](http://www.ti.com/ez430)
- Tools videos: <https://community.ti.com/media/g/microcontrollers/default.aspx>
- TI's microcontrollers: [www.ti.com/mcu](http://www.ti.com/mcu)
- TI's low power RF: [www.ti.com/lprf](http://www.ti.com/lprf)
- TI energy blog: <http://TIenergy.ti.com>
- TI E2E Community and support: <https://community.ti.com/forums/35.aspx>

### **About Texas Instruments**

Texas Instruments (NYSE: [TXN](#)) helps customers solve problems and develop new electronics that make the world smarter, healthier, safer, greener and more fun. A global semiconductor company, TI innovates through manufacturing, design and sales operations in more than 25 countries. For more information, go to [www.ti.com](http://www.ti.com).

### **About Cymbet**

Cymbet Corporation - a green technology company--is a leader in thin-film, solid-state storage devices and energy harvesting technology. The company is the first to market a surface mount packaged energy storage solution that designers can use to realize new embedded systems capabilities. Cymbet's EnerChip(TM) thin-film devices enable innovative energy storage applications for integrated circuits and new products for process control, medical, wireless, sensors, RFID, communications, consumer, portable electronics and energy harvesting. Visit Cymbet online at [www.cymbet.com](http://www.cymbet.com).

### **Trademarks**

EnerChip is a trademark of Cymbet Corporation. All other trademarks are the property of their respective owners.

###