

## **ZICM2410P2 Theory of Operation**

California Eastern Laboratories (CEL's) MeshConnect™ ZICM2410P2 Extended Range module delivers industry-leading range, high performance, and a rich feature set, all at a surprisingly low cost.

The ZICM2410P2 module is based off of CEL's ZIC2410 transceiver platform. It combines this transceiver IC with an on-board 100mW Power Amplifier, Low Noise Amplifier, TX/RX switches, an integrated PCB trace antenna, and an optional U.FL connector. The module has been FCC/IC certified only for use with the integrated trace antenna. For applications that wish to use the U.FL connector to connect an external antenna, full compliance testing would need to be performed for that antenna by the end user.

The ZIC2410 transceiver is a full single-chip solution that is compliant to the IEEE802.15.4 and ZigBee specifications. It is a complete wireless solution for ZigBee and applications such as home automation and sensor networks. It consists of an RF transceiver with a baseband modem, a hardwired MAC and an embedded 8051 microcontroller with internal flash memory for application programs. It also includes several general-purpose I/O pins and many peripheral devices such as a timer and UART. The chip targets very low power and low voltage applications.