

EMB-Z2530PA

IEEE 802.15.4/ZigBee® - 2.4 GHz
OEM Module



EMB-Z2530PA is a 2.4 GHz OEM wireless module targeting low-power RF applications. The module is a simple and cost effective solution that provides IEEE 802.15.4 / ZigBee® wireless connectivity and multi-hop networking.

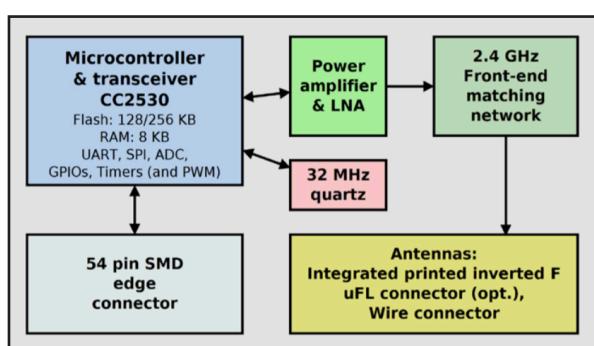
EMB-Z2530PA can be configured either as an embedded micro system or as a simple data modem for low power applications in the 2.4 GHz ISM band. It is based on the Texas Instruments® CC2530 single chip microcontroller, integrating 256 KB of Flash memory and 8 KB of SRAM memory.

The RF section integrates a PA/LNA stage assuring best-in-class performance in terms of covered area. The output power can be configured through software settings up to +20 dBm, making possible to establish wireless links of up to 500 meters (LoS); the U.FL receptacle allows the connection of an external antenna.

EMB-Z2530PA has several interfaces: two UART ports, an SPI, several digital I/O ports (up to 16 digital lines) and an ADC port.

EMB-Z2530PA can be configured as network coordinator or router, as well as an end-device thanks to the extremely reduced power consumption in sleep mode.

EMB-Z2530PA block diagram:



Technical Specifications

MCU	Texas Instruments® CC2530 8051 at 32MHz
Memory	8 KB RAM / 256 KB Flash
Frequency	2405 ÷ 2480 MHz
Tx output power	up to +20 dBm
Rx Sensitivity	up to -100 dBm
Data rate	250 kbps (802.15.4)
Interfaces	UART/SPI
Digital I/O	up to 16 lines
Analog I/O	One 12-bit channel (6 other channels available)
Outdoor link range	Over 500m (LoS)
Indoor link range	High wall penetration capability for indoor use
Supply voltage	2.0 - 3.6 V
Current consumption	135 mA (TX @ +20 dBm) 28 mA (RX) 1.1µA (sleep with RTC running)
Timer	two 8 bit timers (or one 16 bit timer) 4 GPIOs associated (PWM)
Antenna	PCB printed inverted F antenna U.FL connector
Dimensions	29.5x22.6x3.5 mm Standard Embit form factor
Connector	SMD Edge Connector
Temperature Range	-40 °C to +85 °C
Certifications	CE FCC
Ordering Information	EMB-Z2530PAX X: IA or UL