

# EMB-Z2530PA

IEEE 802.15.4/ZigBee® - 2.4 GHz  
OEM Module



## Technical Specifications

**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.

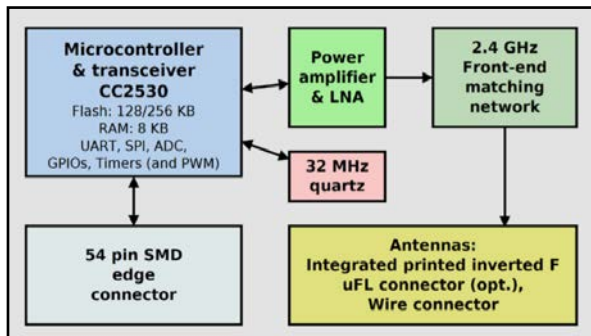
**EMB-Z2530PA** can be configured either as an embedded micro system or as a simple data modem for low power applications in the 2.4 GHz ISM band. It is based on the Texas Instruments® CC2530 single chip microcontroller, integrating 256 KB of Flash memory and 8 KB of SRAM memory.

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:



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