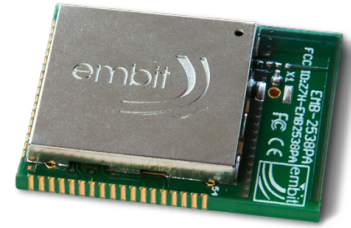


EMB-Z2538PA

IEEE 802.15.4/ZigBee® - 2.4 GHz

ARM Cortex™-M3

OEM Module



Technical Specifications

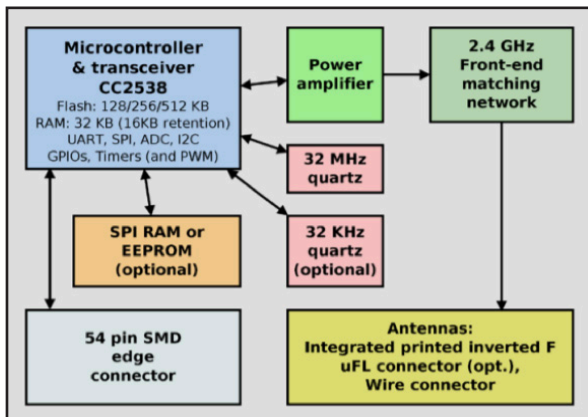
EMB-Z2538PA is a powerful OEM wireless module targeting low-power RF applications (specifically IEEE 802.15.4) and featuring the computational power of the ARM Cortex™-M3 core.

EMB-Z2538PA 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 Texas Instruments® CC2538 single chip microcontroller, integrating 128, 256 or 512 KB of FLASH and 32 KB of SRAM.

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-Z2538PA can communicate with other devices through several interfaces: two UART ports, a SPI, several digital I/O ports (up to 15 digital lines) and an ADC port. **EMB-Z2538PA** can be configured as a network coordinator or router (thanks to the availability of up to 512 KB of FLASH), as well as an end-device thanks to the extremely reduced power consumption in sleep mode.

EMB-Z2538PA block diagram:



MCU	Texas Instruments® CC2538 (ARM Cortex™-M3 at 32 MHz)
Memory	32 KB RAM / 512 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 15 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	138 mA (TX @ +20 dBm) 30 mA (RX) 1.7 µA (sleep with RTC running)
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 FC
Ordering Information	EMB-Z2538PAX X: IA or UL