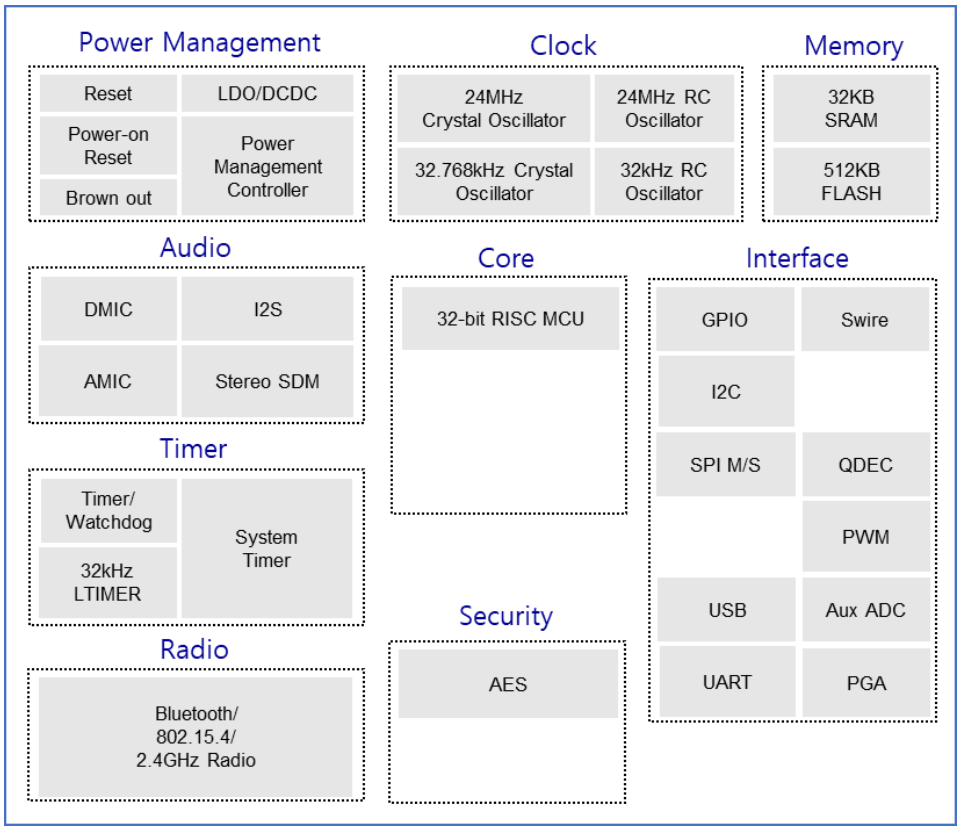
TX-M2430 Product Brief

Overview

The TX-M2430 is Bluetooth LE + IEEE802.15.4 multi-standard wireless solution with internal Flash and audio support, which combines the features and functions needed for all 2.4GHz IoT standards into a module. The TX-M2430 combines the radio frequency (RF), digital processing, protocols stack software and profiles for multiple standards into a module. The module supports standards and industrial alliance specifications including Bluetooth Low Energy (up to Bluetooth 5), BLE Mesh, 6LoWPAN, Zigbee, RF4CE, HomeKit and 2.4GHz proprietary standard.



Applications

- Wearable devices
- Smartphone and tablet accessories
- RF remote control
- Sports and fitness tracking
- Wireless toys
- Smart lighting, smart home devices
- Building automation
- Smart grid
- Intelligent logistics/ Transportation/city
- Consumer Electronics
- Health care
- Industrial control

Key Features

32-bit RISC MCU

- Max.48MHz operating frequency
- Better power-balanced performance than ARM M0

Protocols

- Bluetooth 5.0 compliant
- BLE: 1Mbps/2Mbps/Mesh
- IEEE 802.15.4: Zigbee/RF4CE/6LoWPAN/Thread
- HomeKit, 2.4GHz proprietary
- Multi-protocol concurrent mode
- HW OTA upgrade and multiple boot switch

Memory

- 32KB SRAM
- Program memory: 512KB Flash

Power Consumption (@3.3V DCDC)

- BLE: Rx 12mA, Tx 15mA @ 0 dBm
- Deep sleep: 1.7uA

RF Specification

- Rx sensitivity (dBm): -92@BLE 1Mbps,
  -97@IEEE 802.15.4 250kbps
  -88@2.4G proprietary 2Mbps
- Tx output power (max.): +7dBm@BLE,

Security

- HW AES

Interface

- Max.21 GPIOs
- DMIC
- A MIC
- I2S
- Mono audio output
- SPI, I2C, USB 2.0, Swire, UART with hardware flow control
- Max.6 channels of differential PWM
- IR transmitter with DMA
- 14-bit auxiliary ADC with PGA
- One quadrature decoder
- Temperature sensor

Antenna

- PCB Pattern antenna

Certification

- KC, CE, FCC

Supply Voltage

- 1.9V ~ 3.6V

Operating Temperature

- -40℃ ~ +85℃

Package Dimension (unit: mm)

- 12 x 14 mm