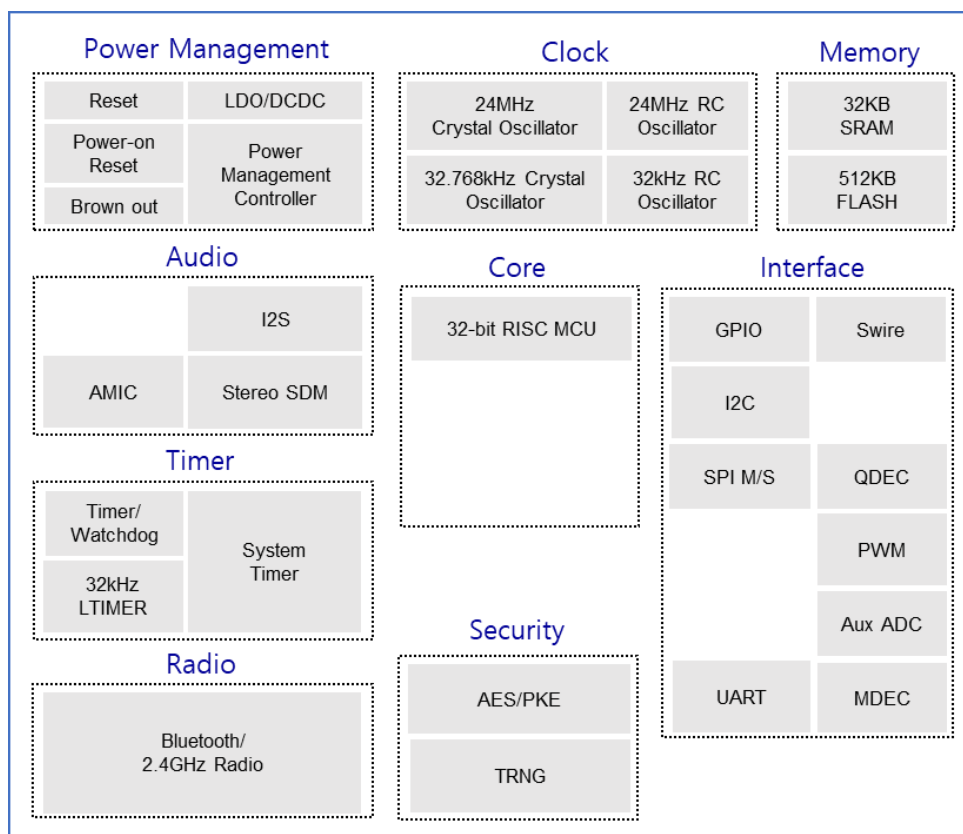**TECHXEN**

Overview

The TLSR8271 is a Bluetooth LE SoC solution with internal Flash and audio support, which combines the features and functions needed for all 2.4 GHz IoT standards into a single SoC. The TLSR8271 supports standards and industrial alliance specifications including Bluetooth Low Energy (up to Bluetooth 5.1), ANT and 2.4 GHz proprietary standard.

Applications

- Wearable devices
- Smartphone and tablet accessories
- RF and IR remote control
- Sports and fitness tracking
- Wireless toys
- Building automation
- Intelligent logistics/ Transportation/city
- Health care
- Industrial control

Key Features

32-bit RISC MCU

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

Protocols

- Bluetooth 5.1 compliant
- BLE: 1Mbps/2Mbps/AoA/AoD/Mesh
- ANT, 2.4GHz proprietary
- Multi-protocol concurrent mode
- HW OTA upgrade and multiple boot switch

Memory

- 32KB SRAM w/ max. 32KB retention
- Program memory: 512KB Flash

Power Consumption (@3.3V DCDC)

- BLE: Rx 4.6mA, Tx 4.9mA @ 0 dBm
- Deep sleep: 0.4uA

RF Specification

- Rx sensitivity (dBm): -96@BLE 1Mbps,
  -93@BLE 2Mbps, -100@LR 125kbps,
  -98@LR 500kbps
- Tx output power (max.): +10dBm@BLE,

Security

- HW AES and AES-CCM
- HW accelerator for Elliptical curve cryptography (ECC)
- Embedded TRNG

Interface

- Max.19 GPIOs
- AMIC
- I2S
- Stereo audio output
- SPI, I2C, USB 2.0, Swire, UART with hardware flow control and 7816 protocol support
- Manchester decoder interface selectable as wakeup source
- Max.5 channels of differential PWM
- IR transmitter with DMA
- 5-channel 14-bit auxiliary ADC
- One quadrature decoder
- Temperature sensor
- Low power comparator
- Packet Traffic Arbitrator (PTA) interface with 2-wire support

Supply Voltage

- 1.8V ~ 3.6V

Operating Temperature

- -40℃ ~ +85℃

Package

- TLSR8271, QFN32, 5x5mm