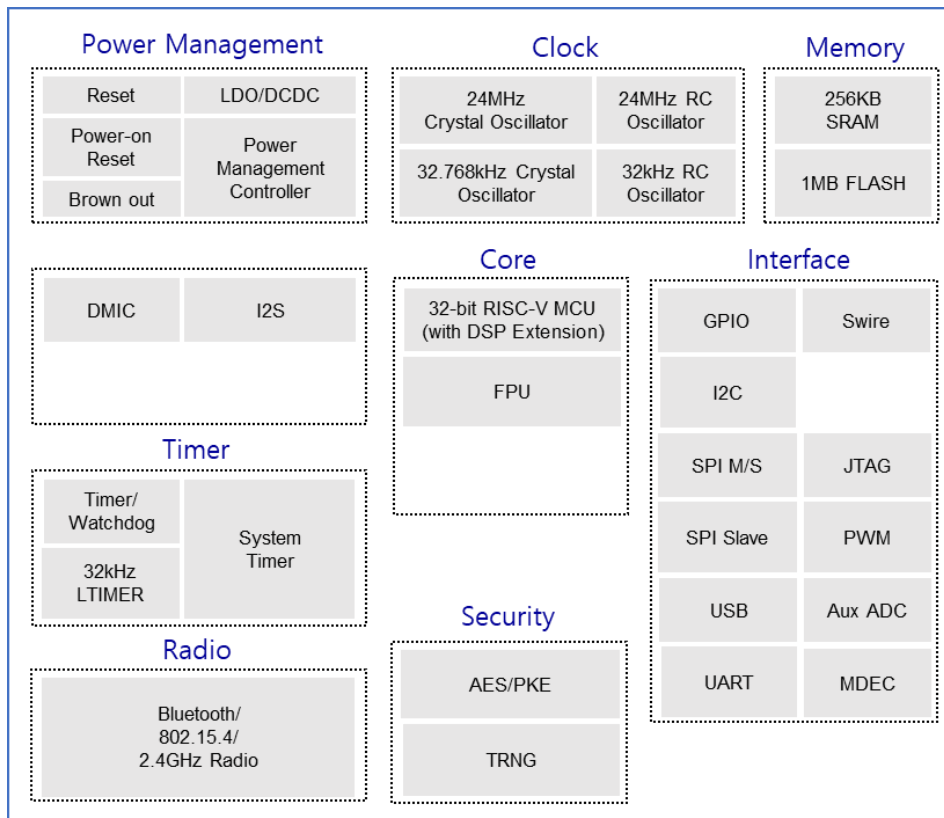


Overview

The TLSR9213 supports standards and industrial alliance specifications including Bluetooth 5.2, Bluetooth LE, indoor positioning and BLE Mesh, Zigbee 3.0, HomeKit, 6LoWPAN, Thread, Matter and 2.4 GHz proprietary standard. The TLSR9213 combines the features and functions needed for high quality wireless audio equipment into a single SoC.



Applications

- Augmented reality glasses
- Smart watches
- Smart trackers
- Wristband

Key Features

32-bit RISC-V MCU

- Max.96MHz operating frequency
- 2.59 DMIPS/MHz, 3.54 CoreMark/MHz
- DSP instruction set, floating-point unit

Protocols

- Bluetooth 5.2 compliant
- BLE: 1Mbps/2Mbps/AoA/AoD/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

- Max.256KB SRAM w/ max. 64KB retention
- Program memory: 1MB Flash

Power Consumption (@3.3V DCDC)

- BLE: Rx 6.1mA, Tx 6.6mA @ 0 dBm
- Deep sleep: 1.1uA

RF Specification

- Rx sensitivity (dBm): -96@BLE 1Mbps,
-92.5@BLE 2Mbps, -99.5@LR 125kbps,
-98.5@LR 500kbps, -99.5@IEEE 802.15.4
250kbps
- Tx output power (max.): -24 ~ +10dBm@BLE,

Security

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

Interface

- Max.40 GPIOs
- Configurable 5-wire JTAG debug interface
- DMIC
- I2S
- SPI, I2C, USB 2.0, Swire, UART with hardware flow control and 7816 protocol support
- Max.6 channels of differential PWM
- IR transmitter with DMA
- 10-channel 14-bit auxiliary ADC
- Low-power comparator
- Packet Traffic Arbitrator (PTA) for Wi-Fi co-existence

Supply Voltage

- 1.8V ~ 4.3V

Operating Temperature

- -40°C ~ +85°C

Package

- TLSR9213A, QFN64, 8x8mm