



# TLSR8267/TLSR8267F512 /TLSR8267F128

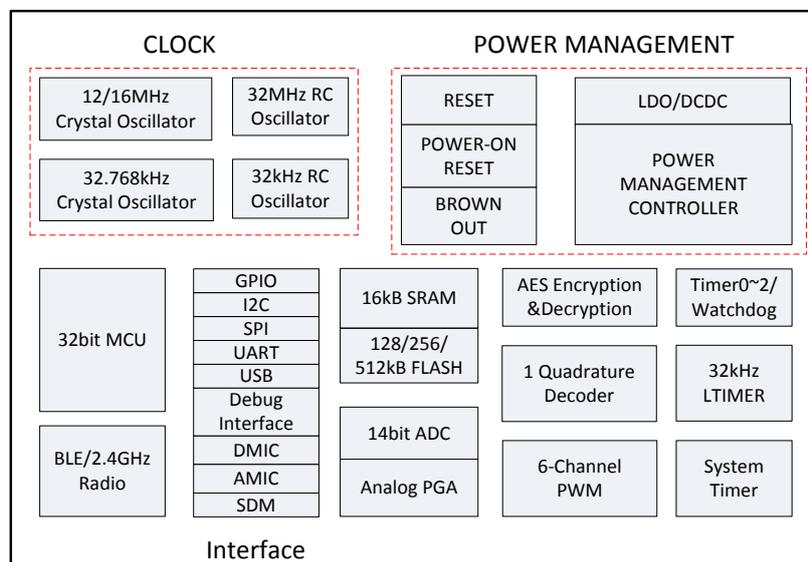
Telink BLE series SoC unlocks the full potential  
for Bluetooth low energy applications

## Product Brief

The TLSR8267/TLSR8267F512/TLSR8267F128 is Telink-developed BLE SoC solution which is completely RoHS-compliant and 100% lead (Pb)-free.

It's compatible with Bluetooth standard and supports BLE specification up to version 4.2. It allows easy connectivity with Bluetooth Smart Ready mobile phones, tablets, laptops, which supports BLE slave and master mode operation, including broadcast, encryption, connection updates, and channel map updates.

The TLSR8267/TLSR8267F512/TLSR8267F128 is designed to offer high integration, ultra-low power application capabilities. It integrates strong 32-bit MCU, BLE/2.4GHz Radio, 16kB SRAM, 128/256/512kB external Flash (TLSR8267) or 512kB internal Flash (TLSR8267F512) or 128kB internal Flash (TLSR8267F128), 14bit ADC with PGA, 6-channel PWM (2-channel IR), one quadrature decoder (QDEC), abundant and flexible interfaces, multi-stage power management module and nearly all the peripherals needed for Bluetooth Low Energy applications development.



### Target Applications

- Smartphone and tablet accessories
- Sports and fitness tracking
- Remote Control and 3D glasses
- Wearable devices

## Key Features

- General features
  - 32bit high performance MCU, up to 48MHz
  - Program memory: external 128/256/512kB Flash (TLSR8267) or internal 512kB Flash (TLSR8267F512) or internal 128kB Flash (TLSR8267F128)
  - Data memory: 16kB on-chip SRAM
  - 12M/16MHz&32.768kHz Crystal and 32kHz/32MHz embedded RC oscillator
  - A rich set of I/Os
    - ◇ TLSR8267: Up to 37 GPIOs
    - ◇ TLSR8267F512: Up to 36/21 GPIOs depending on package option
    - ◇ TLSR8267F128: Up to 14 GPIOs
    - ◇ DMIC (Digital Mic), AMIC (Analog Mic), Mono-channel Audio output
    - ◇ SPI, I2C, USB, Debug Interface, UART with hardware flow control
  - Up to 6 channels of PWM, 2-channel IR
  - Sensor: 14bit ADC with PGA & Temperature sensor
  - One quadrature decoder
  - Embedded hardware AES
  - Compatible with USB2.0 Full speed mode
  - TLSR8267 & TLSR8267F128 operating temperature range: -40°C~+85°C
  - TLSR8267F512 operating temperature range:
    - ◇ ET versions: -40°C~+85°C
    - ◇ AT versions: -40°C~+125°C
  - Supports Apple HomeKit without external DSP
  - TLSR8267 Package:
    - ◇ TLSR8267ET48, 48-pin QFN 7×7mm
  - TLSR8267F512 Package:
    - ◇ TLSR8267F512ET48, 48-pin QFN 7×7mm
    - ◇ TLSR8267F512ET32 / TLSR8267F512AT32, 32-pin QFN 5×5mm
  - TLSR8267F128 Package:
    - ◇ TLSR8267F128ET24, 24-pin QFN 4x4mm
- RF features
  - BLE/2.4GHz RF transceiver embedded, working in worldwide 2.4GHz ISM band
  - Bluetooth 4.2 Compliant, 1Mbps and 2Mbps LE Enhancement FIPD version
  - Rx Sensitivity (@BLE 1Mbps, 3.3V): -92dBm (QFN32 & QFN24 package)/-91dBm (QFN48 package)
  - Tx output power (@3.3V): +7dBm (QFN32 & QFN24 package)/+6dBm (QFN48 package)
  - Single-pin antenna interface
  - RSSI monitoring
- Features of power management module
  - Embedded LDO

- Battery monitor: Supports low battery detection
- Power supply: 1.9V~3.6V
- Multiple stage power management to minimize power consumption
  - ◇ Receiver mode current: 12mA
  - ◇ Transmitter mode current: 15mA @0dBm power, 22mA @max power
  - ◇ Suspend mode current: 10uA (IO wakeup), 12uA (Timer wakeup)
  - ◇ Deep sleep mode current: 1.7uA
- TSLR8267F512/TSLR8267F128 Flash features
  - TSLR8267F512 Flash: Total 512kB (4Mbits)
  - TSLR8267F128 Flash: Total 128kB (1Mbits)
  - Flexible architecture: 4kB per Sector, 64kB/32kB per block
  - Up to 256 Bytes per programmable page
  - Write protect all or portions of memory
  - Sector erase (4kB)
  - Block erase (32kB/64kB)
  - Cycle Endurance: 100,000 program/erases
  - Data Retention: typical 20-year retention

## Development tools

A full set of development tools for the BLE SoC are provided, which include EVB, reference design and SDK for customers to perform evaluation, quick application prototyping and firmware development.

## Company Profile

Telink Semiconductor provides highly integrated radio-frequency and mixed-signal System-On-Chip (SoC) solutions for a variety of communication and control application markets including consumer electronics, medical instruments, industrial control, home automation, smart energy, and etc.

For further information on the technology, product and business term, please contact Telink Semiconductor Company.

Website: [www.telink-semi.com](http://www.telink-semi.com)

Tel: 021 2028 1118

Email: [telinknsales@telink-semi.com](mailto:telinknsales@telink-semi.com), [telinkcnsupport@telink-semi.com](mailto:telinkcnsupport@telink-semi.com)