

Product Brief

General Description

As one member of the low-power, high-integration family of Telink wireless SoC solution, the TL8R8366 is dedicated to 2.4GHz RF System-On-Chip solutions such as wireless mouse, non-audio remote control, non-audio USB dongle, etc.

The TL8R8366 integrates an advanced 2.4GHz RF transceiver, a powerful 32-bit MCU, 16KB on-chip OTP, 6KB on-chip SRAM, a quadrature decoder (QDEC), flexible I/O interfaces, and nearly all of the peripheral blocks needed to construct a powerful 2.4GHz RF System-On-Chip solution. Based on the TL8R8366 with high-volume-assembly and high integration, few external components are needed to satisfy customers' ultra-low cost requirement.

Target Applications

- Wireless mouse
- Non-audio remote control
- Non-audio USB dongle

Key Features

— General features

- Embed 32-bit high performance MCU with clock up to 48MHz
- Memory: 16KB on-chip OTP, 6KB on-chip SRAM
- 16MHz Crystal and 32KHz/32MHz embedded RC oscillator
- Up to 18/12/9 GPIOs depending on package option
- USB/SWS/MSPI interface
- Embeds one quadrature decoder (QDEC)
- Compatible with USB2.0 Full speed mode
- Operating temperature: -40°C~+85°C industrial temperature range

— RF features

- 2.4GHz RF transceiver embedded, working in worldwide 2.4GHz ISM band
- Adaptive frequency hopping
- RF link data rate: 2Mbps
- Rx Sensitivity: -87dBm at 2Mbps mode
- Tx Output power: +7dBm
- Auto acknowledgement and retry
- Single-pin antenna interface
- RSSI monitoring

- Features of power management module
 - Power supply of 1.9V~3.6V
 - Embedded LDO
 - Battery monitor: Supports low battery detection
 - Multiple stage power management to minimize power consumption
 - Low power consumption:
 - ◇ Transmitter mode current: 15mA @ 0dBm power, 23mA @ max power
 - ◇ Receiver mode current: 12.7mA
 - ◇ Suspend mode current: 10uA
 - ◇ Deep sleep mode current: 0.7uA

- RoHS-compliant package
 - TLSR8366ET32, 32-pin QFN 5x5 mm
 - TLSR8366ET24, 24-pin QFN 4x4 mm
 - TLSR8366EP16, 16-pin SOP16L_10x6 mm

Development tools

A full set of development tools for the 2.4GHz RF System-On-Chip solution 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

Tel: 021 2028 1118

Email: telinknsales@telink-semi.com, telinknsupport@telink-semi.com