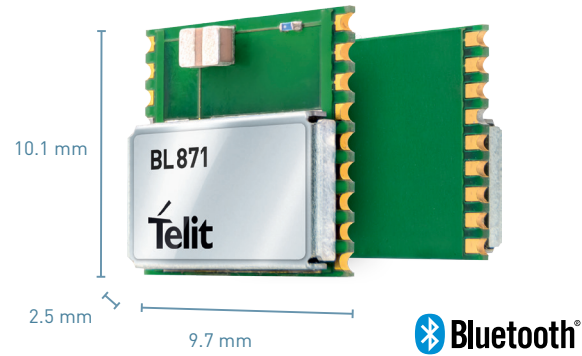


BL871E2-HI

Bluetooth Dual Mode Module



Product description

The Telit BL871E2-HI Module reduces development cost and time to market for a design using Bluetooth® connectivity.

The BL871E2-HI is a Bluetooth Host Control interface 4.2 module that supports Bluetooth Basic Rate (BR), Enhanced Data Rate (EDR), and Low Energy (BLE).

It is highly optimized for low-cost designs and includes a built-in chip antenna. This Host Control Interface device offers best-in-class RF performance with about twice the range of other Bluetooth LE-only solutions.

Power-management hardware and software algorithms provide significant power savings in all commonly used Bluetooth BR/EDR/LE modes of operation.

This ultra-compact BT4.2 Host Control Interface module is the ideal companion for:

- customers' MCU running the Telit BT 4.2 BlueCode SR stack
- customer design with its own BT stack driver
- customer design requiring standard OS (e.g. Android, Windows)

Example applications are:

- Scanner & Printer
- mPOS
- IoT (Healthcare / Industrial Gateway)
- Sensor Hub, Sensor Gateway
- Wireless Audio

True to the Telit, "Design once, use anywhere," philosophy, device makers' benefit from future proof, cost effective solutions. The low power consumption makes the BL871E2-HI an ideal choice for battery-operated devices.

Key Features

- Complete Bluetooth BR/EDR/LE Host Control Interface solution with integrated chip antenna
- Very low power consumption, including low power modes of operation
- Best-in-Class Bluetooth (RF) Performance (TX Power, RX Sensitivity, Blocking)
- RED, FCC/IC certification

AVAILABLE FOR

- EMEA
- North America
- Latin America
- APAC
- Australia

Combine your BT module with

Cellular modules



Wi-Fi modules



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Complete, Ready to Use Access to the Internet of Things



BL871E2-HI

Hardware Features

Bluetooth BR/EDR

- Up to 7 active devices
- Scatternet: Up to 3 piconets simultaneously, 1 as master and 2 as slaves
- Up to 2 Synchronous Connection Oriented (SCO) links on the same piconet
- Support for All Voice Air-Coding – Continuously Variable Slope Delta (CVSD), A-Law, μ -Law, Modified Sub band Coding (mSBC), and transparent (uncoded)
- Provide an assisted mode for HFP 1.6 Wideband Speech (WBS) profile or A2DP profile to reduce host processing workload and power
- Support of multiple Bluetooth profiles with enhanced QoS

Bluetooth Low Energy

- Support for up to 10 connections
- Multiple sniff instances tightly coupled to achieve minimum power consumption
- Independent buffering for LE allows large numbers of multiple connections without affecting BR/EDR performance
- Built-In coexistence and prioritization handling for BR/EDR and LE
- Capabilities of Link Layer Topology
- Scatternet - Can act concurrently as peripheral and central
 - Network support for up to 10 Devices
 - Time Line Optimization algorithms to achieve maximum channel utilization

Environmental

- 18 LCC pads
- Length x Width x Height: 9.7x10.1x2.5 mm, 871 Form Factor
- Temperature range: -40°C to +85°C

Interfaces

- UART: default 115,200 bps. max 4 Mbps (asynchronous)

Approvals

- Qualification as Bluetooth 4.2 controller subsystem in preparation
- RED, FCC, IC

Electrical & Sensitivity

RF Power & Sensitivity:

- Class 1 TX power up to +12 dBm
- Receiver Sensitivity: -95 dBm
- Internal temperature detection and compensation to ensure minimal variation in RF performance over temperature. No external calibration required
- Improved Adaptive Frequency Hopping (AFH) algorithm with minimum adaptation time
- Longer range, about twice that of other Low-Energy-Only solutions

Power supply:

V_{BAT} 2.2 to 4.8 V V_{DDIO} 1.62 to 1.92 V

- Advanced Power Management for extended battery life and ease of design
- On-chip power management, including direct connection to battery
- Low power consumption for Active, Standby, and Scan Bluetooth modes
- Shutdown and Sleep modes to minimize power consumption

Power Consumption

- Continuous Transmission: (GFSK): 107 mA
- Continuous Transmission: (EDR): 113 mA
- I/O Total (active mode): max 1 mA
- Deep Sleep: typ 40, max 105 μ A
- Shutdown: typ 1, max 7 μ A



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