

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
- mP0S
- 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

FMFΔ

North America

Latin America

APAC Australia

Combine your BT module with

Cellular



Wi-Fi modules



www.telit.com

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
- 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 μA

• Shutdown: typ 1, max 7 μA

Telit reserves all rights to this document and the information contained herein. Products, names, logos and designs described herein may in whole or in part be subject to intellectual property rights.

The information contained herein is provided "as is". No warranty of any kind, either express or implied, is made in relation to the accuracy, reliability, fitness for a particular purpose or content of this document. This document may be revised by Telit at any time. For most recent documents, please visit www.telit.com Copyright © 2017, Telit

* Copyright © 1990-2017, Python Software Foundation



Join the Telit Technical Forum

For a quicker and more rewarding integration experience join the Telit Technical Forum. There you can browse the first open forum covering all IoT topics, get direct support by region (EMEA, North America, Latin America, APAC), take part in this quickly growing IoT community and exchange experiences

Telit Communications S.p.A. Via Stazione di Prosecco, 5/B I-34010 Sgonico (Trieste), Italy

Phone +39 040 4192 200 Fax +39 040 4192 383 E-Mail EMEA@telit.com

Telit Wireless Solutions Inc. 3131 RDU Center Drive, Suite 135 Morrisville, NC 27560, USA

Phone +1 888 846 9773 or +1 919 439 7977 Fax +1 888 846 9774 or +1 919 840 0337 E-Mail NORTHAMERICA@telit.com

Telit Wireless Solutions Inc. Rua Paes Leme, 524, Conj, 126 05424-101. Pinheiros São Paulo-SP-Brazil

Phone +55 11 3031 5051 Fax +55 11 3031 5051 E-Mail LATINAMERICA@telit.com Telit Wireless Solutions Co., Ltd. 8th Fl., Shinyoung Securities Bld. 6, Gukjegeumyung-ro8-gil, Yeongdeungpo-gu Seoul, 150-884, Korea

Phone +82 2 368 4600 +82 2 368 4606 E-Mail APAC@telit.com





www.telit.com/techforum www.telit.com/facebook

