



**BT830-ST**



**BT830-SA**

The BT830 series of UART HCI modules are a complement to Laird's original dual-mode Bluetooth v4.0 offerings (BT800 series), bringing support for Classic Bluetooth and Bluetooth Low Energy (BLE) in a tiny footprint.

Leveraging the market-leading CSR 8811 chipset, the BT830 series provides exceptionally low power consumption with outstanding range. Supporting the latest Bluetooth v4.0 Specification with EDR (Enhanced Data Rate), the Laird BT830 series enables OEMs to accelerate their development time for leveraging either Classic Bluetooth or Bluetooth Low Energy (BLE) into their operating system-based devices.

The BT830 has a footprint as small as 8.5 x 13 mm, yet output power at 7 dBm. This makes these modules ideal for applications where designers need both performance and minimum size. For maximum flexibility in systems integration, the modules are designed to support a UART interface plus GPIO and additionally I<sup>2</sup>S and PCM audio interfaces.

These modules present an HCI interface and have native support for Windows CE/Mobile and Linux Bluetooth software stacks. All BT830 series devices are fully qualified by the Bluetooth SIG as a Hardware Controller Subsystem. This also allows designers to integrate their existing pre-approved Bluetooth Host and Profile subsystem stacks to gain a Bluetooth END product approval for their products.

The BT830 series is engineered to provide excellent RF performance with options for an integrated antenna or for an external antenna via a trace pin. Additionally, the modules have on-board band pass filters to further reduce the regulatory and testing requirements for OEMs, ensuring a hassle-free development cycle.

A fully featured, low-cost developer's kit is available for prototyping, debug, and integration testing of the BT830 series modules and further reduces risk and time in development cycles.

#### Features & Benefits



- Bluetooth v4.0 - Dual Mode
  - Classic Bluetooth
  - Bluetooth Low Energy
- Compact Footprint
- Class 1 output 7 dBm
- UART, GPIO, I<sup>2</sup>S, and PCM
- Industrial Temperature Range
- Bluetooth SIG approvals
- FCC, IC, and CE approvals

#### Application Areas

- AIDC products
- Medical devices
- ePOS terminals
- Barcode Scanners
- Industrial Cable Replacement
- M2M Connectivity
- Automotive Diagnostic Equipment

global solutions: local support.

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[www.lairdtech.com/bluetooth](http://www.lairdtech.com/bluetooth)

Support Portal:  
<http://ews-support.lairdtech.com>

The details contained within this document are subject to change. Download the product specification from [www.lairdtech.com/bluetooth](http://www.lairdtech.com/bluetooth) for the most current specification.



## BT830 Series

### Bluetooth v4.0 Class 1 UART HCI Modules

CATEGORIES	FEATURE	IMPLEMENTATION
Wireless Specification	Bluetooth®	V4.0 Dual Mode
	Frequency	2.402 - 2.480 GHz
	Max. Transmit Power	Class 1 +7 dBm from antenna +7 dBm from trace pin
	Receive Sensitivity	-89 dBm
	Range	Circa 100 meters
	Data Rates	Up to 3 Mbps (over the air)
	Host Interface	UART
GPIO		6 configurable lines
Operational Modes	HCI	Host Controller Interface over UART
Coexistence	802.11 (Wi-Fi)	3 wire CSR schemes supported (Unity-3 and Unity-3e)
Supply Voltage	Supply	1.8V – 3.6V
Power Consumption	Current	Idle Mode ~ 4.3 mA (Master; ACL link; No Traffic)
		File Transfer ~7.1 mA (Master; ACL Link; Traffic)
Antenna Option	Internal	Multilayer ceramic (BT830-SA)
	External	SMT Pad (BT830-ST)
Physical	Dimensions	8.5 x 13 x 1.6 mm (BT830-SA and BT830-ST)
Environmental	Operating	-40 °C to +85 °C
	Storage	-40 °C to +85 °C
Miscellaneous	Lead Free	Lead-free and RoHS compliant
	Warranty	Five-Year Limited Lifetime
Approvals	Bluetooth®	Hardware Controller Subsystem
	FCC / IC / CE	All BT830 series

### Ordering Information

BT830-SA	BTv4.0 Dual Mode UART HCI Module (Integrated Antenna)
BT830-ST	BTv4.0 Dual Mode UART HCI Module (SMT Pad for External Antenna)
DVK-BT830-SA	Development Kit for BT830-SA Module
DVK-BT830-ST	Development Kit for BT830-ST Module