

The BT800 series of USB HCI modules, and packaged Dongle, are Laird's first dual-mode Bluetooth v4.0 offerings, bringing support for Classic Bluetooth and Bluetooth Low Energy (BLE) in a tiny package.



BT800 – BTv4.0 USB HCI Module

Leveraging the market-leading CSR 8510 chipset, the BT800 series provides exceptionally low power consumption with outstanding range. Supporting the latest Bluetooth v4.0 Specification with EDR (Enhanced Data Rate), the Laird BT800 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 BT800 has a tiny footprint as small as 8.5 x 13mm, yet output power at 8dBm, these modules are ideal for applications where designers need both performance and minimum size. For maximum flexibility in systems integration, the modules are designed to support a full speed USB interface plus GPIO and additionally I2S and PCM audio interfaces.



BT820 – Packaged BTv4.0 USB Dongle

These modules present an HCI interface and have native support for Windows and Linux Bluetooth software stacks. All BT800 series devices are fully qualified as Bluetooth Controller Subsystem products. 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 BT800 series is engineered to provide for excellent RF performance with integrated antenna and additional band pass filters to further reduce the regulatory and testing requirements for OEMs and ensures a hassle free development cycle. As an additional benefit of the BT800 series, Laird has implemented CSR's HID (Human Interface Device) Proxy Mode enabling out of the box HID connectivity for pointing devices and / or keyboard functionality, requiring zero host device software or configuration.

The BT820 is a packaged Dongle version of the BT800 module, that allows OEMs to plug the device into any Windows or Linux device that supports USB connectors and an inbuilt Bluetooth software stack in its operating system.

A fully featured, low-cost developer's kit is available for prototyping, debug and integration testing of the BT800 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 - 8dBm
- USB, GPIO, I2S & PCM
- Industrial Temperature Range
- 64k EEPROM support for HID Proxy Mode
- Bluetooth Controller Subsystem
- FCC, IC, and CE approvals



#### Application Areas

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

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.

CATEGORIES	FEATURE	IMPLEMENTATION
Wireless Specification	Bluetooth®	V4.0 Dual Mode
	Frequency	2.402 - 2.480 GHz
	Max Transmit Power	Class 1 +8dBm from antenna
	Receive Sensitivity	-89dBm
	Range	Circa 100 meters
	Data Rates	Up to 3 Mbps (over the air)
Host Interface	USB	Full Speed USB 2.0
	GPIO	4 configurable lines
Operational Modes	HCI	Host Controller Interface over USB
	HID Proxy Mode	Human Interface Device
Coexistence	802.11 (Wi-Fi)	2 and 3 wire CSR schemes supported (Unity-3;Unity-3e and Unity+)
Supply Voltage	Supply	1.7V – 3.6V
Power Consumption	Current	Idle (sleep) < TBC mA Connectable & Discoverable < TBC mA
Antenna Option	Internal	Multilayer ceramic
Physical	Dimensions	8.5 x 13 x 1.6 mm (BT800 - Module) 9.3 x 13.05 x 2.3mm (BT810 – Carrier Board) 16 x 43 x 11 (BT820 – Packaged USB Dongle)
Environmental	Operating	-30C to +85C
	Storage	-40C to +85C
Miscellaneous	Lead Free	Lead-free and RoHS compliant
	Warranty	1 Year
Approvals	Bluetooth®	Controller Subsystem Approved
	FCC / IC / CE	All BT800 series

### Ordering Information

BT800	BTv4.0 Dual Mode USB HCI Module
BT810	BTv4.0 Dual Mode USB HCI Module (Carrier Board)
BT820	BTv4.0 Dual Mode USB Dongle
DVK-BT800	Development Kit for BT800 Module

**FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**IMPORTANT NOTE:****Radiation Exposure Statement:**

The product comply with the US portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.