Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us
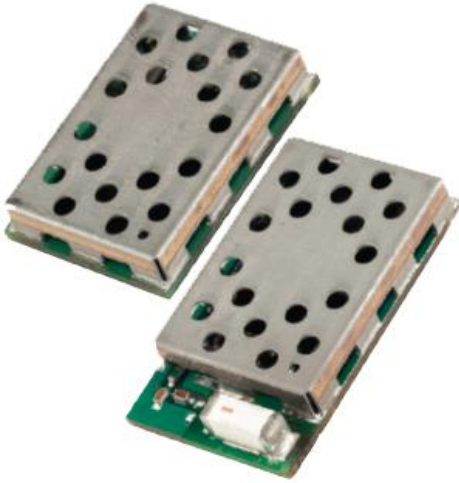
The BTM44x series Bluetooth® modules from Laird Technologies have been designed to meet the needs of developers who wish to add robust, short-range Bluetooth data connectivity to their products. They are based on the market-leading Cambridge Silicon Radio BC04 chipset, providing exceptionally low power consumption with outstanding range. These modules support the latest Bluetooth Version 2.1 Specification, providing the important advantage of Secure Simple Pairing, which improves security and enhances the ease of use for end customers. In addition to Serial Port Profile, the BTM44x series features a number of additional features and profiles not found on other Bluetooth modules.

With a small footprint of 12.5 x 18.0 mm and best-of-class, low-power operation, these modules are the ideal choice for applications where designers need both performance and minimum size. For maximum flexibility in systems integration, the modules are designed to support a separate power supply for I/O.

To aid product development and integration, Laird Technologies has integrated a complete Bluetooth protocol stack within the modules, including support for multi-point connections and numerous Bluetooth profiles, and are fully qualified as Bluetooth End Products, allowing designers to integrate them within their own products with no further Bluetooth Qualification.

Support for Serial Port Profile (SPP), Human Interface Device (HID) profile and Health Device Profile (HDP) are included in the module. The support of the Bluetooth Sig's Health Device Profile makes this the ideal module for development of Continua compliant medical and wellness devices. By default the Health Device Profile supports the ISO/IEEE 11073-10415 device specialization for weigh scales, with the additional specialisations of Thermometer and Glucose being available and more can be delivered upon request.

Communication is available to the module over a serial UART utilizing either a custom Multi-point Packet Protocol API or comprehensive AT commands. Combined with a low cost developer's kit, this ensures that the choice of Laird Technologies Bluetooth modules guarantees the fastest route to market.

Features and Benefits ✓RoHS

- Bluetooth v2.1+EDR
- Adaptive frequency hopping to cope with interference from other wireless devices
- Secure Simple Pairing support
- External or internal antenna options
- Comprehensive AT interface for simple programming
- Bluetooth End Product Qualified
- Compact size
- Class 2 output – 4 dBm
- Low power operation
- UART interface
- GPIO lines under AT control

Application Areas

- Embedded devices
- Phone accessories
- Security devices
- Medical and telehealth devices
- Aftermarket automotive applications
- Bluetooth advertising
- ePOS

global solutions: **local** support ™

USA: +1.800.492.2320
Europe: +44.1628.858.940
Asia: +852.2923.0610

wirelessinfo@lairdtech.com
www.lairdtech.com/wireless

CATEGORIES	FEATURE	IMPLEMENTATION
Wireless Specification	Bluetooth®	Version 2.1+EDR
	Frequency	2.402 – 2.480 GHz
	Max Transmit Power	Class 2 - +4 dBm (at antenna pad – BTM440/442) +4 dBm (from integrated antenna – BTM441/443)
	Receive Sensitivity	Better than -84 dBm
	Range	Up to 30 meters
	Data Rates	Up to 2.1 Mbps (over the air)
	UART Data Transfer Rate	Greater than 300 Kbps
Host Interface	UART	Supports CTS, RTS, DTR, DSR, DCD and RI
User Interface	GPIO	8 lines (shared)
Profiles		SPP –Serial Port Profile HID – Human Interface Device Profile HDP – Health Device Profile
		Seven slave devices supported (throughput limited in multipoint mode)
Supply Voltage	Supply	3.0 V to +3.3 V
	I/O	1.7 V to +3.6 V (independent of V_{cc})
Power Consumption	Current Consumption	Less than 40 mA during SCO transmission. Idle (sleep) < 1 mA
Connections	External Antenna	Connection via SMT pad – BTM440/442
	Internal Antenna	Multilayer ceramic – BTM441/443
Protocols		AT Command Set
Physical	Dimensions	12.5 mm x 18.0 mm x 3.4 mm (external antenna – BTM440/442) 12.5 mm x 22.0mm x 3.4 mm (integrated antenna – BTM441/443)
Environmental	Operating Temperature	-40° C to +85° C
	Storage Temperature	-40° C to +85° C
Miscellaneous	Lead Free	Lead-free and RoHS compliant
	Warranty	5-Year Limited Lifetime
Developmental Tools	Development Kit	Development board and software tools
Approvals	Bluetooth	End Product Approved
	FCC/IC & CE	BTM440/442 - Limited Modular Approval BTM441/443 - Full Modular Approval

Ordering Information ✅RoHS

BTM440	Enhanced Bluetooth Data Module (Multipoint Mode, external antenna)
BTM441	BTM441 Enhanced Bluetooth Data Module (Multipoint Mode with integrated antenna)
BTM442	BTM442 Enhanced Bluetooth Data Module (AT Command Mode, external antenna)
BTM443	BTM443 Enhanced Bluetooth Data Module (AT Command Mode with integrated antenna)
DVK-BTM440	DVK- BTM440 Development Kit (MP Mode, external antenna)
DVK-BTM441	DVK- BTM441 Development Kit (MP Mode, with integrated antenna)
DVK-BTM442	DVK- BTM442 Development Kit (AT Mode, external antenna)
DVK-BTM443	DVK- BTM443 Development Kit (AT Mode, with integrated antenna)

The details contained within the document are subject to change. Download the product specification from www.lairdtech.com/wireless for the most current specification.

Revision History

Version	Date	Changes	Approved By
1.0	01 May 15	Initial	J. Kaye