



The BTM420 and BTM421 Bluetooth® modules are designed to meet the needs of developers adding robust, short range Bluetooth data connectivity to their products and using embedded Bluetooth stacks within these products. They are based on the market-leading Cambridge Silicon Radio BC04 chipset, providing exceptionally low power consumption with outstanding range. Supporting the latest Bluetooth Version 2.1 Specification with EDR (Enhanced Data Rate), HCI Data Modules increase data throughput up to 2.1 Mbps. This provides the advantage of Secure Simple Pairing that improves security and enhances ease of use for end customers.

With physical sizes as small as 12.5mm x 18.0mm, best-of-class, low-power operation, 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 separate power supplies for I/O and USB interface.

These modules present an HCI interface and are fully qualified as Bluetooth Controller Subsystem products. This allows designers to integrate their existing pre-approved Bluetooth Host and Profile subsystem stacks to gain a Bluetooth END product approval for their products.

A low-cost developer's kit is available for prototyping, ensuring a faster route to market.

#### FEATURES AND BENEFITS

- Bluetooth v2.1+EDR
- Adaptive frequency hopping to cope with interference from other wireless devices
- Secure Simple Pairing support
- External or internal antenna options
- HCI interface
- Bluetooth Controller Subsystem Product Qualified
- Compact size
- Class 2 output – 4dBm
- Low power operation
- USB interface
- Multi-point support
- PCM and SCO for external codec
- Wi-Fi co-existence hardware support

#### APPLICATION AREAS

- Embedded Devices
- Phone Accessories
- Security Devices
- Medical Devices
- Automotive Applications
- Bluetooth Advertising
- ePOS

#### global solutions: local support™

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CATEGORIES	FEATURE	IMPLEMENTATION
<b>Wireless Specification</b>	Bluetooth®	Version 2.1+EDR
	Frequency	2.402 – 2.480 GHz
	Max Transmit Power	Class 2 + 4dBm (at antenna pad – BTM420) +4dBm (from integrated antenna – BTM421)
	Receive Sensitivity	Better than -84dBm
	Data Rates	Up to 2.1Mbps (over the air)
<b>Host Interface</b>	USB	Qualified to USB v 1.1. Compliant with USB 2.0 Data signalling requirements.
<b>Power Consumption</b>	Current Consumption	Less than 32 mA during transmission
<b>Supply Voltage</b>	Supply	3.0V to +3.3V
	USB	3.1V to 3.0V
	I/O	3.0V to +3.3V (independent of Vcc)
<b>Coexistence / Compatibility</b>	802.11 (Wi-Fi)	2 wire and 3 wire schemes supported
<b>Connections</b>	External Antenna	Connection via SMT pad – BTM420
	Internal Antenna	Optional – multilayer ceramic – BTM421
<b>Physical</b>	Dimensions	12.5mm x 18mm x 1.6mm (external antenna – BTM420)
		12.5mm x 22.0mm x 1.6mm (integrated antenna – BTM421)
<b>Environmental</b>	Operating Temperature	-30°C to +70°C
	Storage Temperature	-40°C to +110°C
<b>Approvals</b>	Bluetooth®	Controller Subsystem Product
<b>Miscellaneous</b>	Lead free	Lead-free and RoHS compliant
	Warranty	1 Year
<b>Development Tools</b>	Development Kit	Development board and software tools

## ORDERING INFORMATION

BTM420 Bluetooth HCI Data Module (external antenna)

BTM421 Bluetooth HCI Data Module (with integrated antenna)

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