

Data Sheet

MC20BT

2023 - 08 - 24

The MC20BT Bluetooth® wireless technology module and antenna is an accessory for Cradlepoint E300 and E3000 Series routers that enables Bluetooth Low Energy (BLE) connectivity for IoT use cases for small to mid-size branches. Example use cases include gaining on-location insights, optimizing operational efficiency, monitoring foot traffic, targeted guest engagement with proximity marketing, and connectivity to BLE based IoT sensors. The all-in-one networking and IoT solution makes it easy to provide edge-to-cloud connectivity to deliver telemetry data from Bluetooth sensors to their IoT applications in cloud or data centers. Instead of requiring Bluetooth gateways with a distinct management console, boxes, and cabling, Cradlepoint offers an easy way to add Bluetooth to branch locations as a part of a secure, cloud-managed network.

Expanding all-in-one Wireless WAN routers with Bluetooth connectivity

Cradlepoint offers Bluetooth as a connectivity option without a dedicated BLE network. The MC20BT module inserts into the E3000 and E300 routers for an all-in-one device that combines networking, Wi-Fi 6, and security in a compact form factor. Manage combined networking and Bluetooth from Cradlepoint NetCloud to simplify configuration, enabling security settings, deploying, monitoring, and troubleshooting across remote locations.

Connect to BLE sensors in gateway mode

Gather data from Bluetooth enabled IoT sensors in remote offices, such as temperature, occupancy, and vibration sensors to monitor food safety, foot traffic, or environmental conditions. In healthcare settings, capture BLE-enabled medical equipment data to track patient data to be monitored in a separate location. While the MC20BT is set up in the gateway mode, there is an option to configure it to bridge LAN clients, to orchestrate sensor data from the router upstream to cloud services such as AWS IoT Greengrass, Microsoft Azure IoT Central, or MQTT server. When the bridge mode is disabled, the information can be captured locally on the router for retrieval.

Use beaconing to engage BLE-enabled devices

The MC20BT also functions in Beacon mode for use cases such as proximity marketing or customer engagement activities. When the MC20BT is in beacon mode, the module sends periodic beacon advertisements. If a Bluetooth-enabled device with the correct privacy settings comes within range, it will detect the beacon, and trigger a marketing platform to send a welcome message or coupon to the guest's device. The MC20BT supports iBeacon, EddyStone, and AltBeacon modes.

Notable Features

- Operates in both a gateway mode for sensor connectivity or as a beacon for proximity marketing and location analytics.
- Manages and remotely configures the Bluetooth radio through Cradlepoint NetCloud Manager.
- Provides status of the BLE interface as well as client analytics on a dashboard while in the gateway mode.
- Eliminates the hardware and management burden of a dedicated Bluetooth network for small footprint locations.
- Supports Wi-Fi and BLE coexistence to mitigate potential interference delivering better performance when both radios are active.

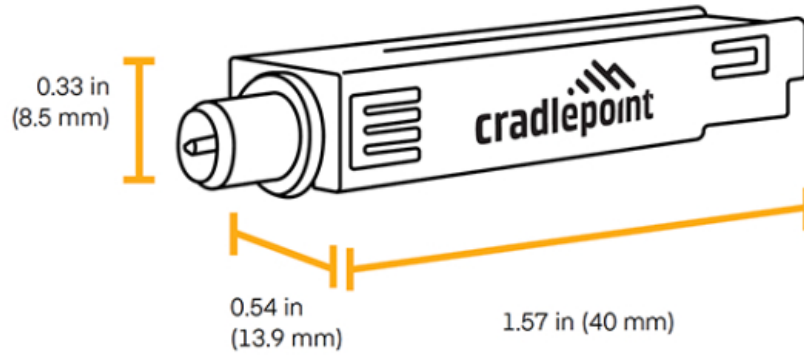


Hardware Specifications

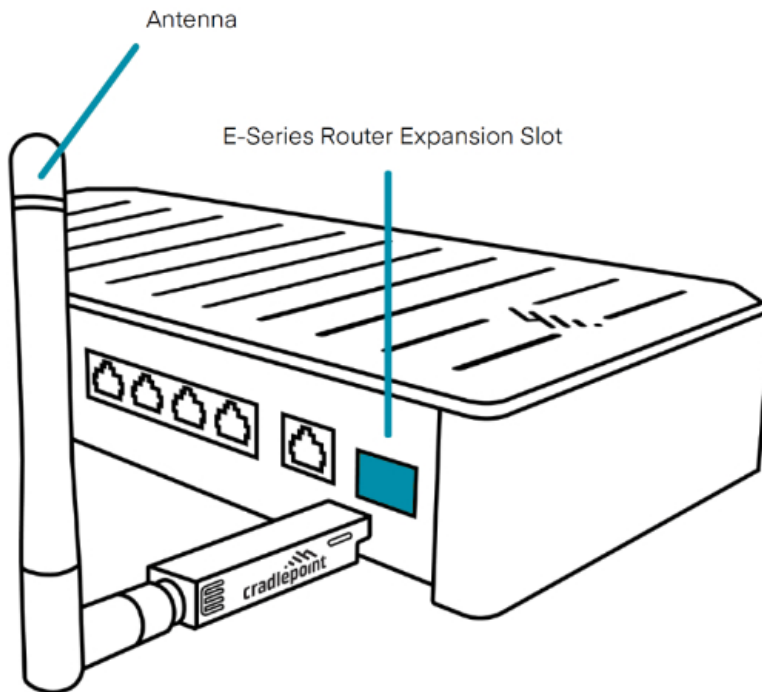
TECHNOLOGY	
Radio:	Bluetooth Low Energy 5.2 (antenna included) <ul style="list-style-type: none"> — Frequency: 2.4 GHz — Gain: -2 dB — Max TX Power: 10 dBm — PHY Connection Rates: 1 Mbps
Range:	150 ft (46 m) indoors <i>May vary due to environmental factors.</i>
Connectable Devices:	Up to 32
Non-Connectable Devices:	Unlimited
POWER	
Input:	Powered by external DC power supply, 100-240 VAC input, 12 VDC 2A output (included)
Rating:	<ul style="list-style-type: none"> — 0.07 mA (idle, no TX beaconing) — 0.86 mA (heavy usage, TX power at 10 dBm)
COMPATIBILITY	
Supported Routers:	<ul style="list-style-type: none"> — E300 Series — E3000 Series
ENVIRONMENTAL	
Temperature:	<ul style="list-style-type: none"> — -0 °C to 50 °C (-32 °F to 122 °F) operational — -50 °C to 150 °C (-58 °F to 302 °F) storage
Humidity:	<ul style="list-style-type: none"> — 10% to 90% operational — 5% to 95% storage
PHYSICAL	
Size:	40 x 8.5 x 13.9 mm (1.57 x 0.33 x 0.54 in)
Weight:	45.35 g (1.6 oz)
RELIABILITY	
Calculated MTBF:	16,364,359 hours (Telcordia SR332 at 25 °C)

CERTIFICATIONS	
Safety:	CB Scheme, FCC/IC, CE
Industry:	Bluetooth SIG

Physical Measurements & Features



Features



Ordering Guide

The MC20BT is an accessory for Cradlepoint routers that have a Bluetooth expansion slot. Activation and use of the MC20BT requires a Cradlepoint E300 or E3000 Series router that is licensed to a NetCloud Service Plan.

For details on the features available to a licensed Cradlepoint router by service plan, refer to the summary on the NetCloud Service webpage and the detail in the NetCloud Service features document.

For more details on the MC20BT, see below.

REGION	DESCRIPTION	PART NUMBER
Worldwide: U.S. & Canada, European Union (EU), United Kingdom (UK), United Arab Emirates (UAE), Saudi Arabia (SA), South Africa (ZA), Asia-Pacific, Australia (AP) & New Zealand (NZ)	Bluetooth Low Energy 5.2 (BLE) Module for E300 & E3000 Series	BF-MC20-BT

Support & Warranty

- The MC20BT Bluetooth module is only sold as an optional accessory.
- All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active NetCloud Service Plan.

More Information

[Find the most up-to-date information at **cradlepoint.com/mc20bt**](https://www.cradlepoint.com/mc20bt)