Bluetooth® Smart Mini Modules

Part Number: B1010SP0-1x
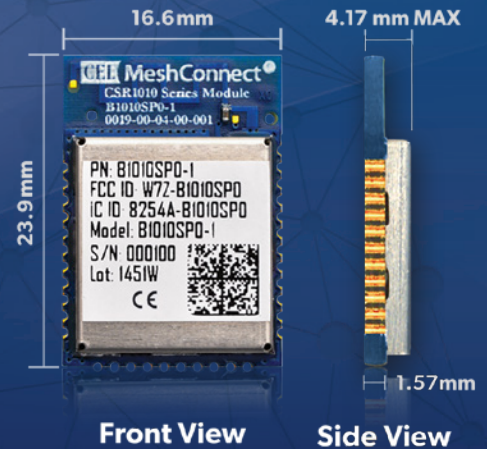
CEL's MeshConnect Bluetooth® Smart Modules eliminate design risk and significantly reduce time-to-market for Bluetooth Low Energy wireless solutions, including programs which utilize the innovative CSRmesh™ protocol.

These devices are footprint-compatible with CEL's existing line of ZigBee and Thread-based Modules, allowing designers to easily transition between multiple wireless networking standards via drop-in compatible module hardware.

16.6mm   4.17 mm MAX

23.9mm

1.57mm

Front View   **Side View**

KEY FEATURES:

CSR — Supports CSRmesh™

avion — Available with Avi-on Software

I/O — 15 Analog/Digital Pins

Supports UART, I2C, SPI

TX — +8 dBm Transmit Power (Pout)

Best-In-Class RF Range of 50m - 100m

Drop-in Compatibility

With CEL's Extensive Line of ZigBee, Thread and WiFi MeshConnect Modules

Supports Bluetooth® Smart v4.x
Including ATT, GATT, SMP, L2CAP, GAP

Based on the CSR1010
• Supports the CSRMesh™ protocol
• Full access to the CSR µEnergy SDK

Advanced Power Management Scheme
Optimized for battery-powered applications

Dual RF Connectivity Options
• Integrated PCB antenna
• External RF output via castellation

Surface-Mountable Package
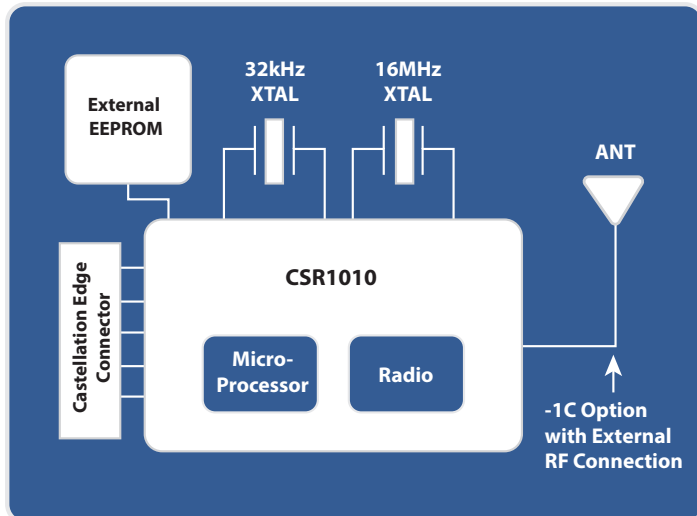Castellation edge connectors at 0.050" pitch for ease of assembly

Over-the-Air Programing
Supports OTA programming updates

Modules are 100% RF tested and pre-certified for FC CE IC **compliance.**

BLOCK DIAGRAM (B1010SP0-1)

SPECIFICATIONS

▸ **MCU:** 16-bit XAP RISC with 64kB RAM + 64kB ROM
▸ **External EEPROM:** 512kb
▸ **Frequency:** 2402 to 2480 MHz
▸ **Operating Voltage:** 1.8 to 3.6 V
▸ **Output Power:** +8dBm
▸ **RX Sensitivity:** -94dBm
▸ **Operating Temp:** -30°C to +85°C
▸ **Over-the-Air Data Rate:** 1Mbps
▸ **Number of channels:** 40
▸ **RoHS Compliant**

APPLICATIONS

▸ Connected Home
▸ Building Automation
▸ Lighting Controls
▸ Sports and fitness sensors
▸ Health sensors
▸ Mobile accessories
▸ General Bluetooth Wireless Sensor Networking

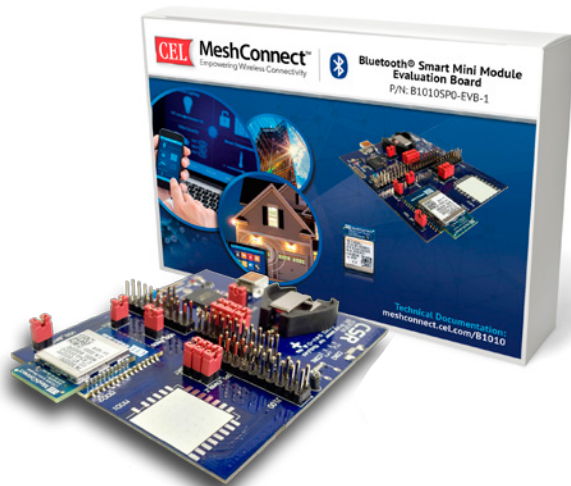### MESHCONNECT™ BLUETOOTH® PART NUMBERS

MeshConnect™ Bluetooth® Smart Mini Modules	
B1010SP0-1	CSR1010 IC, +8dBm Output Power, Integrated Antenna
B1010SP0-1C	CSR1010 IC, +8dBm Output Power, Castellation RF Output Pin for External Antenna
MeshConnect™ B1010 Bluetooth® Smart µEnergy Starter Development Kit	
B1010SP0-EVB-1	Bluetooth® Smart Mini Module Evaluation Kit

![CEL MeshConnect™]

Bluetooth® Smart Mini Module Evaluation Kit (B1010SP0-EVB-1)

CEL offers a variant of CSR's µEnergy® Starter Development Kit which has been outfitted to support the B1010SP0-1 module. This kit enables the rapid development of Bluetooth Smart applications and includes:

• CSR's xIDE for µEnergy (includes compiler)
• CSR's reference software for Bluetooth Smart profiles
• CSR's example applications for iOS and Android smartphones

Visit **meshconnect.cel.com/B1010** for more information.