Cassia E1000 Bluetooth Router

The E1000 is the world's first low-cost, long range and scalable enterprise Bluetooth IoT solution, designed for deployments in industrial automation, health monitoring, senior safety and other enterprise IoT applications.
It extends Bluetooth's range up to 1000 feet open space and enables remote control of 40 Bluetooth low energy devices without requiring any changes to the Bluetooth end devices.

OVERVIEW

The Cassia E1000s are deployed in industrial automation, healthcare, retail, senior safety, and many other enterprise IoT applications. It brings significant benefits to IoT connectivity: low cost, worldwide standardized, low power and long range.

The E1000's compact and cost-effective design is the ideal solution for indoor IoT applications. The Cassia E1000 attaches to the ceiling or wall with an included mounting kit or can be easily placed on a desktop or counter space. The E1000 receives power from a Micro-USB adapter or from a switch, using power over Ethernet (PoE) via the uplink Ethernet port.

The E1000 is an enterprise-grade long-range Bluetooth router, extending Bluetooth's range up to 1000 feet and expanding the number of devices that can be paired and controlled up to 40 Bluetooth low energy devices. Its patented smart antenna is optimized for horizontal use. The E1000 is used as a protocol gateway, translating between the Bluetooth protocol and IP protocol. It supports Ethernet, 2.4Ghz and 5Ghz Wi-Fi, or 3G/4G cellular dongle as IP backhaul. This enables your Bluetooth low energy devices to be accessible, and controllable, remotely via an Internet application.

The Cassia Restful APIs enable the integration of proprietary Bluetooth low energy devices to the E1000 without changing the end devices. In addition, the Cassia IoT Access Controller (AC) provides easy to use device management at scale. Solution providers use the AC to deploy and manage hundreds of Cassia E1000 routers and thousands of connected devices from a single user interface.

UNIQUE BENEFITS

Seamless Bluetooth Coverage
With smart antenna and RF management technology, the E1000 delivers wall penetrating Bluetooth coverage of up to 1000 feet. Its long-range capability increases "connection density" and reduces cost, allowing solution providers to deploy seamless Bluetooth coverage indoor and out.

Remote Access and Control
The E1000 connects your Bluetooth low energy devices that are within its coverage to your LAN or Internet, assigns them into different usage, and allows them to be controlled remotely.

Easy Integration
Cassia E1000 provides a set of Restful APIs which partners can easily integrate into their native mobile app or cloud applications. They can enjoy the extended range and routing capabilities of the E1000 without making any changes to their Bluetooth end devices.

Easy Deployment and Management
The E1000 is setup and managed by the Cassia IoT AC. Administrators can quickly deploy and check the status of all Bluetooth devices in their network (routers, sensors, throughput, CPU consumption, device location, and more).

Real-time Location Tracking
Together with the Cassia AC, the E1000 tracks and reports the location of Bluetooth low energy devices within its coverage, providing geolocation data in real-time.

Support Business Data Bypass

By sending business data directly to a third-party server, organizations can bypass the Cassia AC. Currently we support SQS and MQTT protocols for bypass mode.

Native Third-Party App

Customers can run their own applications inside the router. For the first release, we support applications developed using Python 2 and NodeJS. Additional programming languages are in development.

ADVANCED FEATURES

PROCESSOR & MEMORY

- CPU: 4 core ARM Cortex-A5, up to 1.5GHz
- 256MB RAM DDR3, 4GB eMMC storage

BLUETOOTH

- BLE chip: 2 Nordic nRF52832
- Bluetooth version: 4.2 LE, 5.0 compliance
- LE Connections: Up to 40 connections
- Frequency: 2.400 to 2.483 GHz
- Data rates: 2x1Mbps
- TX power: 0 to +20dBm, continuously adjustable: 4db step
- RX sensitivity: -105dBm
- Antenna Gain: 5dbi PEAK
- Increased broadcast capacity (x8)

WIFI (802.11 a/b/g/n/ac)

- Frequency: 2.4 GHz and 5GHz ISM band
- TX power: 17.5 to 12.5dBm for 2.4GHz band, 15.5 to 8.5dBm for 5GHz band
- RX sensitivity: -96 to -71dBm for 2.4GHz band, -91 to -71dBm for 5GHz band, depending on modulation
- Antenna: Integrated dual band

MULTIPLE ROLES

The E1000 supports broadcaster, listener, sender and receiver roles, and can play multiple roles simultaneously.

SECURITY SERVICES

- Support Bluetooth 4.2 security standards
- Advanced 128bit AES encryption
- Password protected router Webpage
- Support HTTPS access to the Cassia AC
- MQTT communication between Cassia router and the broker is encrypted.

POWER INTERFACE

- Power over Ethernet: 802.3af/at compliant source
- Micro-USB, DC 5v, 2.1A
- When both power sources are connected and active, PoE takes priority

OTHER INTERFACES

- 10/100 BASE-T Ethernet uplink
- USB 2.0 (can be used for 3G/4G dongle)
- Reset button: Factory reset
- LED lights: Wi-Fi / BT / System / Ethernet / Power

MECHANICAL

- Dimensions with supplied mounting plate:
  - 164 mm (W) x 164 mm (L) x 62 mm (D),
    6.45" (W) x 6.45" (L) x 2.44" (D)
- Weight: 390 kg

ENVIRONMENTAL

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F),
  - Humidity: 0% to 90% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

MOUNTING

- Mount kit to attach the router to the wall or ceiling is included

CERTIFICATION

- FCC (US), IC (Canada), CE (Europe), BQB, SRRC (China), TELEC (Japan)

WARRANTY

- 1-year limited hardware warranty