Cassia Networks
The Future of Connected Things

DATA SHEET

X1000 Enterprise Bluetooth Router

(Outdoor and Indoor Use)

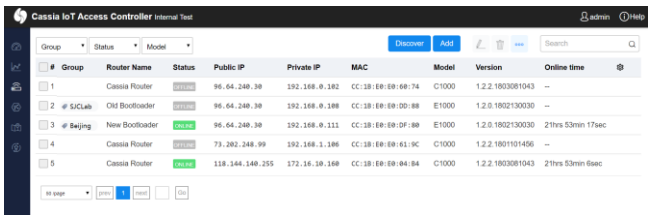
The Cassia Networks X1000 is the world's first long-range enterprise Bluetooth router used in both indoor and outdoor environments. It extends Bluetooth's range up to 1000 feet open space and enables remote control of 22 Bluetooth low energy devices without requiring any changes to the Bluetooth end devices. The X1000 acts as an internet gateway working with the Cassia Access Controller for easy deployment and management.

OVERVIEW

The Cassia X1000 enterprise Bluetooth router can be used in both indoor and outdoor environments, supports Power-over-ethernet (PoE) and offers enhanced functionalities. It can be attached to the pole or wall with an included mounting kit or placed on a desktop or counter space. It receives power from PoE via the uplink Ethernet port. X1000 is fully weather proof, and is widely deployed in school campus, sports field, stadiums, manufacturing yards and large metropolitan areas.

The X1000 is a first of its kind enterprise Bluetooth router capable of extending Bluetooth's range up to 1000 feet in open space and expanding the number of devices that can be paired and connected to 22 Bluetooth low energy devices or listening to potentially hundreds of devices at the same time when operating in broadcast mode. The X1000 has a built-in smart antenna array designed specifically for Bluetooth. It can be used as a protocol gateway, which translates between Bluetooth protocol and IP protocol. The X1000 supports Ethernet and 2.4GHz Wi-Fi for 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 X1000 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 X1000 routers and thousands of connected devices from a single user interface.



UNIQUE BENEFITS

Seamless Bluetooth Coverage

With its smart antenna and RF management technology, the X1000 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.

Remote Access and Control

The X1000 connects your Bluetooth low energy devices, uploads the aggregated device data to the AC via your LAN or Internet, and allows them to be controlled remotely.

Easy Integration

Cassia's X1000 provides a set of RESTful APIs which developers can easily integrate into their native mobile app or cloud applications. Cassia partners use the extended range and routing capabilities of the X1000 without a need to make costly changes to their Bluetooth end devices.

Easy Setup and Management

Cassia's X1000 comes with Wi-Fi hotspot mode, which improves a user's overall setup experience when performing an initial installation without network access.

The X1000 can be managed by the Cassia IoT AC. Administrators can quickly provision and check the status of all routers in their network (connected and/or identified sensors, throughput, CPU consumption, device location, and more).

Room-based Location Tracking

Together with the Cassia IoT AC, the X1000 tracks and reports the location of Bluetooth low energy devices, providing geolocation data in real-time.

Edge Computing

Partners can run their own applications inside a container within the router for reduced latency, customized command and control, and better data management. Currently, the X1000 supports Ubuntu OS with built-in packages for Python2 and NodeJS.

Flexible Deployment

In a network restricted environment, the X1000 can be configured in “Stand-Alone Mode”, where the data is sent directly to a local third-party application server. In a remote management scenario, users can setup “AC Manage Mode” in the X1000 router to send data to a remote third-party application via the Cassia IoT AC.

Tx Power

Based on the country code selected, the X1000’s Bluetooth transmit power and Wi-Fi transmit power are limited to the maximum value allowed by that country.

ADVANCED FEATURES

Processor & Memory

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

Bluetooth

- BLE chip: 2x CSR8811
- Bluetooth version: 4.0/4.1/4.2
- LE Connections: Up to 22 connections
- Frequency: 2.400 to 2.483 GHz
- Data rates: up to 2x1Mbps
- TX power: 0 to 10dBm
- RX sensitivity: -105dBm
- Antenna Gain: 5.7dbi vertical polarized

Wi-Fi (802.11 b/g/n)

- Frequency: 2.4 GHz
- Mode: Wi-Fi client or hotspot (for setup only)
- TX power: 17.5 to 12.5dBm
- RX sensitivity: -96 to -71dBm
- Antenna: Omnidirectional

Multiple Roles

- Supports broadcaster, listener, sender and receiver roles
- Can play multiple roles simultaneously.

Security Services

- Supports Bluetooth 4.1 security standards
- Bluetooth Secure Simple Pairing (Just Works, Passkey Entry, OOB)
- Advanced 128bit AES encryption
- Password protected router Webpage
- Communication between the Cassia IoT AC and the router is based on DTLS1.0 over UDP
- MQTT communication between Cassia router and the broker is encrypted.
- Firmware is signed by certificate to ensure authenticity
- Supports HTTPS access to the Cassia AC and router

Power Interface

- Power-over-Ethernet: 802.3af/at compliant source
- Power consumption: up to 2.5W for normal usage; 3G/4G dongle adds up to 2.5W

Other Interfaces

- 10/100 BASE-T Ethernet (RJ-45) uplink
- Reset button
- LED lights: Power / System
- USB 2.0 (can be used for 3G/4G cellular dongle)

Mechanical

- Dimensions:
  - 154 mm (D) x 259 mm (H)
  - 6.1-inch (D) x 10.2 inch (H)
- Weight: 800 g / 28 oz

Environmental

- Operating:
  - Temperature: -40°C to +65°C (-40°F to +149°F)
  - Humidity: 0% to 90% non-condensing
- Storage and transportation:
  - Temperature: -50°C to +70°C (-58°F to +158°F)
- Wind resistance:
  - Up to 85-MPH sustained winds
  - Up to 135-MPH wind gusts
- IP ratings: IP65

Mounting

- Wall or pole mounting kit included

Certification

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

Warranty

- 1-year limited hardware warranty

Version: 07252018-BC