

In the era of the smart and the convergence of technologies, we at CASCADEMIC extended and evolved our decades of embedded expertise from the SCADA to the M2M & Growing IoT space.

CASCADEMIC is a Fabless ODM Solution Provider in M2M and IoT. Specializing in Wireless Remote Monitoring, Sensors, and Controls & Industrial Automation.

In the process of continuous evolution and upgradation of technology, the process and processor SoC's are evolving and becoming more and more integrated. In addition, the complexities around RF, Ultra low power, Wireless protocols, and Embedded Java & Real time firmware applications built-on many such industrial embedded devices with long term reliability and availability requirements are increasing.

By addressing the above needs from the Concept to Manufacturing Vertical Integration, we act as an ODM partner for our Customer's Intelligent System Solution needs of:

- Wireless Smart Flow Meter
- OEM Thermal Printer Solution
- Wi-Fi RFID Access Control Solution
- Wireless Sensor Networks
- Smart Automation & Control
- GPS NAVITRAK

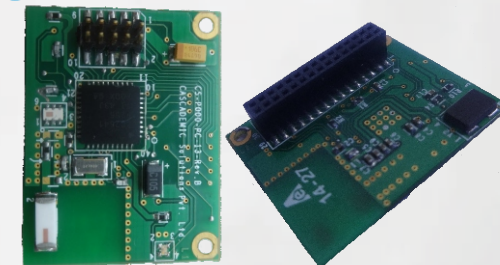
## ADDRESS

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## IonosA1- SimpleLink CC2541 BLE Module



2.4 GHz Bluetooth 4.0 Low Energy  
Compliant and Proprietary.

Supports BLE proximity and key exchange.

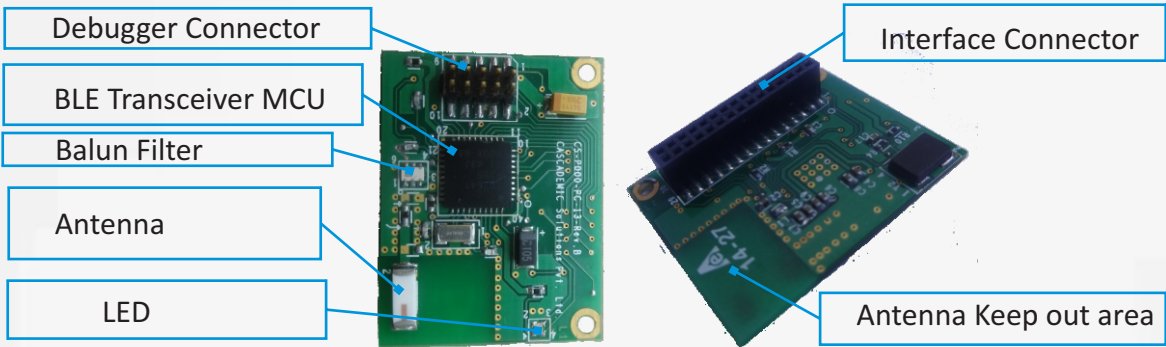
Supports 250-kbps, 1Mbps, 2Mbps data rates.

Supports UART and I2C Interface

DESCRIPTION:

CASCADEMIC Solutions has introduced a small size, ultra low power and low cost Bluetooth v4.0 low energy(BLE) module. This module includes an embedded processor, antenna and BLE stack. The processor is an excellent RF transceiver embedded with low power 8051 microcontroller which has 256-KB in-system programmable flash memory, 8-KB RAM, 23 GPIOs . The BLE module is with Powerful UARTs with Support for Several Serial Protocols and I2C interface for interfacing to other host module or slave module.

This module can be used either as master board or as slave board. Addition advantages includes UART programming, Over-the- air-updates ,easy integration of “C” library framework, serial streaming of data, smart phone libraries and data. This is the best solution for low power IoT and M2M application.



APPLICATION:

- Home Automation and Security
- Connected Appliances
- Consumer Electronics
- Machine-to-Machine (M2M) Communications
- Toys
- Sports and Leisure Equipment
- Human-Interface Devices

MODULE FEATURES:

Specification	Discription
RF	<ul style="list-style-type: none"><li>→ 2.4 GHz Bluetooth Low Energy Compliant and Proprietary .</li><li>→ Supports <b>250-kbps,1Mbps,2Mbps</b> data rates.</li><li>→ Programmable output power up to <b>0dBm</b>.</li><li>→ Excellent Receiver Sensitivity : <b>-94dBm at 1Mbps</b>.</li></ul>
Processor	<ul style="list-style-type: none"><li>→ The Module is built on Texas Instruments' CC2541 IC.</li><li>→ High-performance and low power 8051 MCU core</li><li>→ 256-KB IN-System-Programmable Flash Memory.</li><li>→ 8-KB RAM.</li><li>→ Supports Hardware Debug.</li></ul>
Peripheral	<ul style="list-style-type: none"><li>→ 23 programmable General-Purpose I/O pins .</li><li>→ Two powerful UART with support for several protocol.</li><li>→ I2C Interface.</li><li>→ General-Purpose Timer.</li><li>→ 12-Bit ADC.</li><li>→ AES security processor.</li></ul>
Power Consumption	<ul style="list-style-type: none"><li>→ Wide supply voltage range 2V-3.6V.</li><li>→ Active Mode Rx-Down to:17.9 mA.</li><li>→ Active Mode Tx(0 dBm):18.2 mA.</li><li>→ Sleep mode :0.5uA.</li></ul>
Module Form Factor	<ul style="list-style-type: none"><li>→ The size of the Module with connector is : 20.50mm X 26.50mm</li></ul>