ARDUINO®

RA Ecosystem Partner Solution
# Arduino PORTENTA C33

Solution Summary

Portenta C33 is a streamlined module that offers high performance at a lower price point, and features Renesas RA6M5 200MHz Arm® Cortex®-M33 TrustZone® microcontroller, making it ideal for developing cost-effective, real-time applications. Quickly deploying AI-powered projects becomes quick and easy with Portenta C33, by leveraging a vast array of ready-to-use software libraries and Arduino sketches available, as well as widgets that display data in real time on Arduino IoT Cloud-based dashboards.

Features/Benefits

- Ideal for low-cost IoT applications with Wi-Fi®/Bluetooth® LE connectivity
- Supports MicroPython and other high-level programming languages
- Offers industrial-grade security at the hardware level and secure OTA firmware updates
- Leverages ready-to-use software libraries and Arduino sketches
- Perfect to monitor and display real-time data on Arduino IoT Cloud widget-based dashboards
- Features castellated pins for automatic assembly lines

Diagrams/Graphics
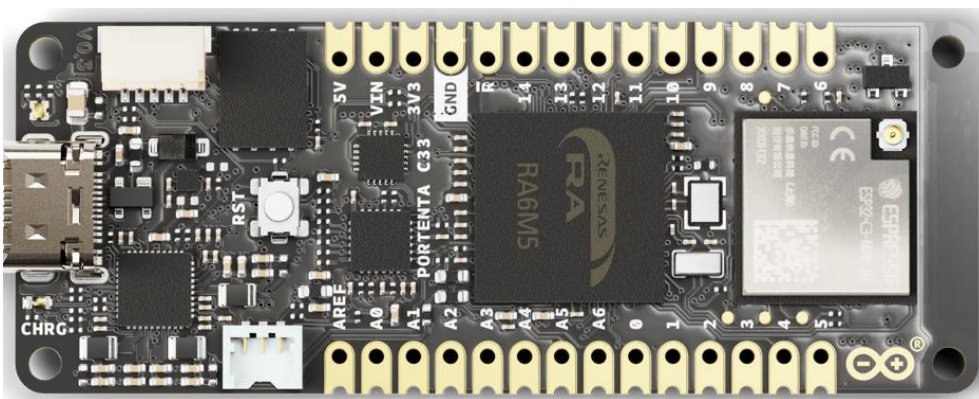
Target Markets and Applications

- Fleet tracking
- Elevator control system
- IoT gateway
- Remote control system
- Process tracking

Hardware - Portenta C33

The Portenta C33 shares the same form factor as the Portenta H7, and it is backward compatible with it. The Portenta C33 is fully compatible with all Portenta family shields and carriers through its [MKR](#)-styled and High-Density connectors.

The board also supports MicroPython and other high-level programming languages, allowing developers to write code in a familiar language and accelerate development. With its onboard Wi-Fi® and Bluetooth® connectivity, the Portenta C33 is the ideal solution for Internet of Things (IoT) gateways, remote control systems, fleet management, and process tracking.

[Portenta C33 | Arduino](#)

Portenta Family Form Factor
The High-Density Connectors and the MKR-styled pins allow full compatibility with the Arduino Portenta and MKR ecosystem, making the Portenta C33 very versatile for a variety of purposes. In addition, Portenta C33 features castellated pins, making it suitable for automatic assembly lines.

MicroPython Language Support
Program the Portenta C33 with MicroPython and other high-level programming languages, offering rapid prototyping, efficient use of resources, and a Python-based development environment for IoT applications.

Low-power design
The Portenta C33 was designed with low power consumption in mind, making it well qualified for battery-powered IoT devices that require long battery life. Its microcontroller is designed for efficient power usage, allowing it to perform real-time processing tasks while consuming minimal energy.

[Portenta C33 — Arduino Official Store](#)