



Overview

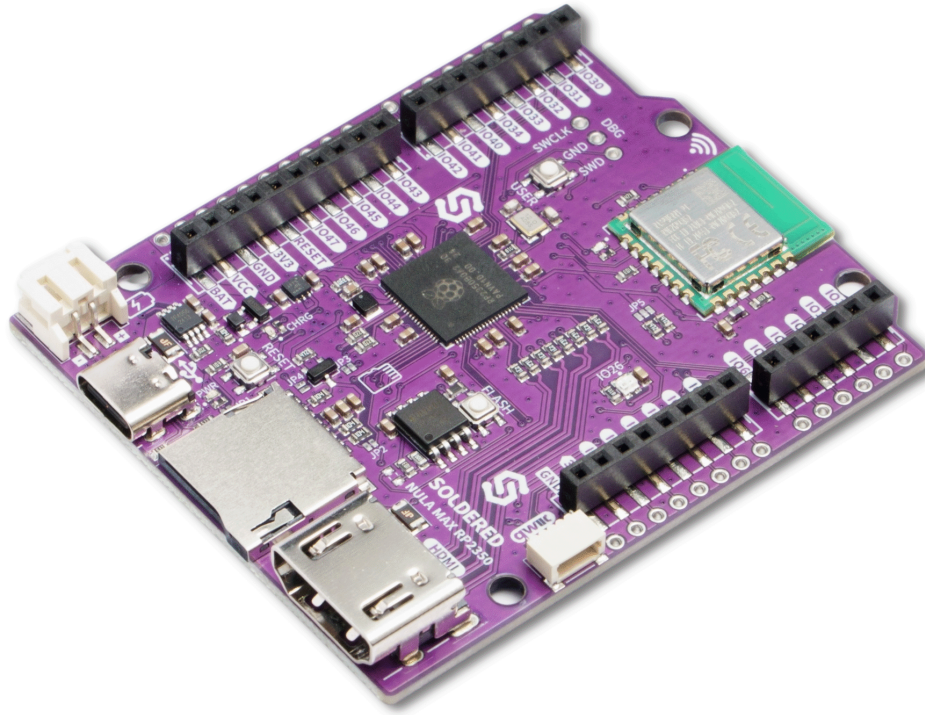
NULA Max RP2350

Use the full potential of modern microcontroller development with the **Soldered NULA Max RP2350**.

Built around the powerful **dual Cortex-M33 RP2350B processor** running at **150 MHz**, this development platform combines the familiar **Arduino form factor** with **modern interfaces** such as HDMI output, Wi-Fi/Bluetooth connectivity, and advanced **PIO (Programmable I/O)** capabilities.

Designed for **expandability** and **ease of use**, the NULA Max includes a **Qwiic port** for quick sensor integration, a **microSD slot** for data logging and media playback, and a **Raspberry Pi Radio Module 2** providing **native Wi-Fi and Bluetooth**.

Its **dual-header layout** exposes up to **48 GPIO pins**, with dedicated lines for wireless and HDMI functions, allowing ambitious projects without sacrificing simplicity. Whether you're building an HDMI weather dashboard, a robot controller, or an IoT gateway, the NULA Max RP2350 is engineered to scale with your creativity.



NULA Max RP2350 Development Board

Which products is this documentation for?



NULA Max RP2350

High-performance dual Cortex-M33 development board with HDMI, Wi-Fi/Bluetooth, and Qwiic connectivity.

Key Features

- **Processor:** Dual Arm® Cortex-M33 cores @ 150 MHz (RP2350B, 80-pin version)
- **Memory:** 520 KB on-chip SRAM + 8 KB OTP storage
- **External Storage:** 16 MB Flash (W25Q128/JVSIM supported)
- **GPIO:** 30–48 pins (depending on configuration) with full peripheral access
- **HDMI Output:** Direct digital video (PicoDVI) for visual applications

- **Wi-Fi/Bluetooth:** Raspberry Pi Radio Module 2 for wireless connectivity
- **Qwiic Port:** Plug-and-play sensor and module integration
- **MicroSD Slot:** For data logging and media storage
- **Battery Support:** JST connector with onboard Li-Ion (3.7 V) charging circuit
- **USB-C:** For programming, power, and serial communication
- **External 16 MHz Crystal:** Ensures accurate timing and clock stability
- **User Interface:** WS2812 RGB LED, RESET, BOOTSEL, and USER buttons
- **Logic Level:** 3.3 V GPIO (not 5 V tolerant)
- **ADC Resolution:** 12-bit ADC (0 – 3.3 V range)
- **Development Support:** Arduino IDE, MicroPython, C++, Rust compatible
- **Form Factor:** Arduino-style footprint with extended GPIO access
- **Dimensions:** 69 × 58.5 mm (2.72 × 2.30 inch)

You may also need



Qwiic cable

Qwiic (formerly easyC) compatible cables with connectors on both ends, available in various lengths.



Li-Ion Battery 3.7 V

Rechargeable 3.7 V Li-Ion battery compatible with NULA Max's JST connector.