

INDUSTRIAL PRODUCT DATASHEET

Wio Terminal: ATSAMD51 Core with Realtek RTL8720DN BLE 5.0 & Wi-Fi 2.4G/5G Dev Board with Free Course

The Wio Terminal combines an ATSAMD51 MCU, Realtek RTL8720DN dual-band Wi-Fi and BLE 5.0, a 2.4" LCD, and versatile I/O, enabling applications from IoT prototyping to handheld analyzers and retro gaming.

SKU

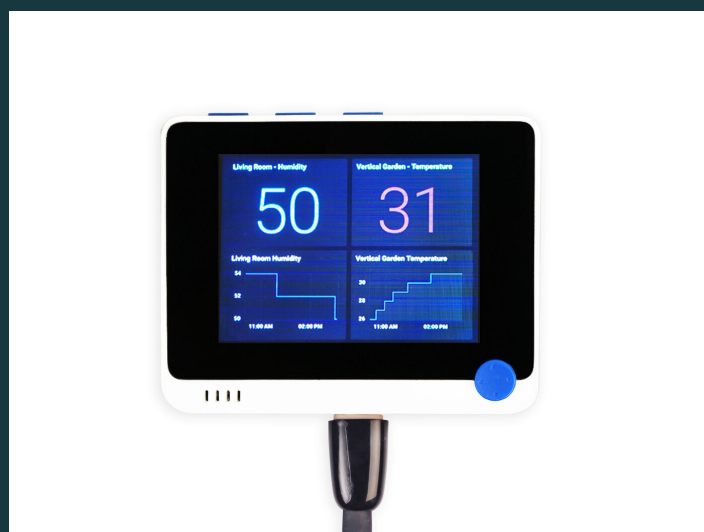
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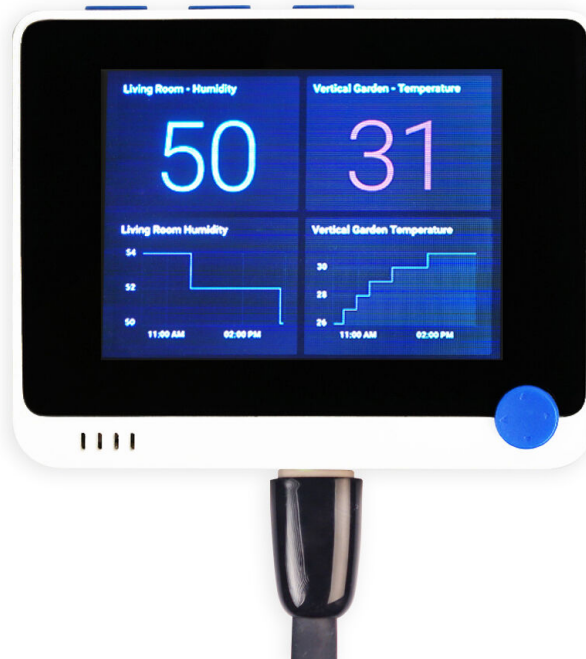
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PRICE

\$33.00(Excl. VAT)



Overview



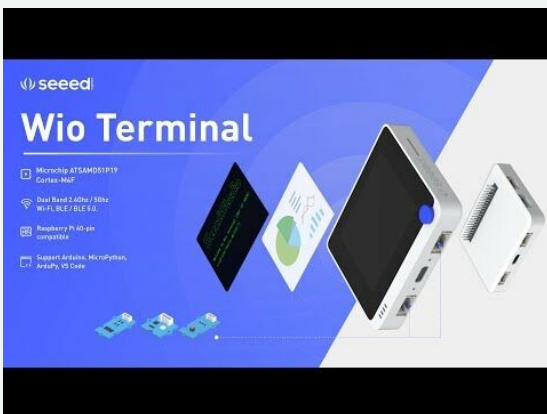
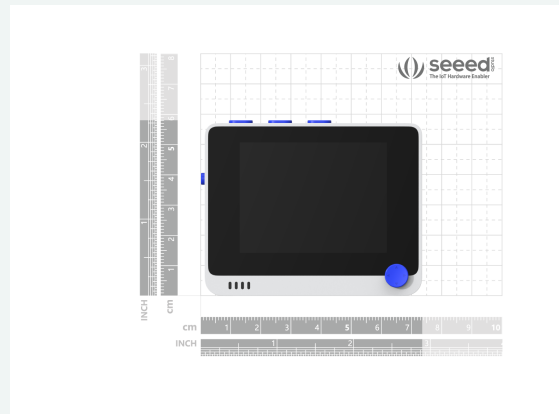
The Wio Terminal features a Microchip ATSAMD51P19 ARM Cortex-M4F MCU at 120MHz, Realtek RTL8720DN dual-band Wi-Fi and BLE 5.0, a 2.4" LCD screen, IMU, USB OTG, Grove ports, and Raspberry Pi 40-pin GPIO compatibility. It supports Arduino, CircuitPython, Micropython, ArduPy, and Azure IoT Central, and is ideal for IoT prototyping, data collection, handheld analyzers, and retro gaming applications.

Key Features

- Powerful MCU: Microchip ATSAMD51P19 with ARM Cortex-M4F core running at 120MHz
- Reliable Wireless Connectivity: Equipped with Realtek RTL8720DN, dual-band 2.4Ghz / 5Ghz Wi-Fi
- Complete system equipped with Screen + Development Board + Input/Output Interface + Enclosure
- Highly Integrated Design: 2.4" LCD Screen, MCU, IMU, WIFI, BT, and more practical add-ons housed in a compact enclosure with built-in magnets & mounting holes allows you to easily set up your IoT project
- Raspberry Pi 40-pin Compatible GPIO enables installation as a peripheral to the Raspberry Pi
- External onboard multi-functional Grove ports: Compatible with over 300 Plug&Play Grove modules to explore with IoT
- USB OTG Support : can act as a USB host (reads data or signals from a mouse, keyboard, MIDI device, 3D printer, etc.) or USB client (emulates a mouse, keyboard, or MIDI device to a host PC).
- Support Arduino, CircuitPython, Micropython, ArduPy([What is ArduPy?](#)), AT Firmware, Visual Studio Code
- Azure Certified Device: Sense and tag real-world data and visualize through Azure IoT Central
- TELEC certificated

Product Gallery





Applications

- Python Terminal Device
- Data Collection Machine Learning powered device
- Hand-held analyzer
- Retro Gaming Device
- IoT Controller
- Smart Robot for Education
- IoT application quick prototyping
- Slave device / Accessories for Raspberry Pi

Compliance & Logistics



HSCODE	8517180050
USHSCODE	8517180050
UPC	
EUHSCODE	8543709099
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- <https://www.seeedstudio.com/Wio-Terminal-p-4509.html>
- [ATSAMD51N19A Datasheet](#)
- [Wio Terminal Schematics v1.2](#)
- [Wio Terminal Enclosure Dimensions - Front](#)
- [Wio Terminal Enclosure Dimensions - Back](#)
- [Wio-Terminal-Screen-Sticker-Design-File\(Wio-Terminal-ちゃん\)](#)
- [Wio-Terminal-chan-Desgin-File-blue&white](#)
- [Wio Terminal Enclosure Dimensions - Front \(DXF\)](#)
- [Wio Terminal Enclosure Dimensions - Back \(DXF\)](#)
- [Wio Terminal Battery Chassis Dimensions \(DXF\)](#)
- [Wio Terminal PCB Dimensions \(DXF\)](#)
- [Wio Terminal User Manual](#)
- [TinyML Case Studies](#)
- [3D Printing "Case" Studies](#)

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