

Arduino UNO Q 4 GB

SKU: ABX00173

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Short Description

Arduino UNO Q bridges high-performance computing with real-time control, supporting advanced applications such as object recognition, voice commands, motion detection, and more. This 4-GB variant gives you even more power and is recommended for use in single-board computer mode and more advanced AI applications.

Overview

Hybrid design makes Arduino UNO Q the perfect dual-brain platform for your next innovation. It combines a Linux® Debian-capable Qualcomm Dragonwing™ QRB2210 microprocessor with a real-time STM32U585 microcontroller (MCU). It's Arduino, it's a computer, it's anything you want to build.

This variant of Arduino UNO Q features 4 GB of RAM and 32 GB of eMMC, making it the best choice if:

- You intend to use Arduino UNO Q in single-board computer (SBC) mode.
- Your application requires running multiple, simultaneous high-level processes.
- You plan to use larger, more complex AI or machine learning models (such as high-resolution computer vision or sophisticated audio processing).
- You need substantial built-in storage for logs and data, and/or a robust development environment.

Arduino UNO Q is the go-to tool to prototype your next robotics or IoT project, thanks to:

- **All-in-one toolbox:** Arduino UNO Q combines the powerful Dragonwing QRB2210 microprocessor (MPU) with a real-time STM32U585 microcontroller (MCU) – no matter what you’re building, it’s your new go-to tool!
- **AI in a blink:** unlock AI-powered vision and sound solutions that react to their environment.
- **Arduino support and developer tools** including libraries, sketches, and projects developed for the Arduino UNO ecosystem by millions of users.
- **Compatible with the Arduino UNO ecosystem:** Arduino UNO Q works with a wide range of Arduino hardware, from classic Arduino UNO shields to new carriers, and includes a Qwiic connector for Modulino® nodes and third-party modules.
- **Streamlined software experience:** in addition to Arduino IDE and Arduino Cloud, you can jumpstart development with plenty of pre-built examples and AI models available through Arduino App Lab.
- **Seamless, unified development:** build classic Arduino Sketches, code in Python® thanks to the pre-installed Linux® Debian OS, or mix the two from a single interface – it’s easy, with Arduino App Lab.

Powered by Dragonwing QRB2210

Your Arduino UNO Q is a compact, cost-effective platform with advanced features like machine vision – thanks to the integrated AI and GPU acceleration, quad-core 2.0 GHz CPU, Qualcomm® Adreno™ GPU, 2x ISP, and support for camera, display, and audio provided by the Dragonwing QRB2210.

Advanced features

- **Microprocessor:** Dragonwing QRB2210
- **Microcontroller:** Real-time, low-power STM32U585 MCU
- **RAM:** 4 GB LPDDR4
- **Storage:** 32 GB eMMC built-in (no SD card required)

- **Connectivity:** Dual-band Wi-Fi® 5 (2.4/5 GHz), Bluetooth® 5.1 wireless technology
- **High-speed headers:** Power advanced peripherals – vision, audio, display
- **Classic UNO headers:** Mount shields to add capabilities
- **LED matrix:** 8 x 13 LED matrix for visual creation and feedback
- **USB-C® connector:** Power delivery, video output, or connect keyboard, mouse, USB microphones or USB cameras via dongle
- **Qwiic connector:** Expand easily with Modulino® nodes – no soldering required

Arduino UNO Q empowers innovators to turn ideas into real-world solutions. Whether you're experimenting with IoT, learning robotics, or diving into AI, **your next idea starts with Q.**

Don't need 4 GB?

Check out the Arduino UNO Q 2-GB variant [here](#).

What is Arduino App Lab?

Unified Dev Experience

App Lab is a brand-new integrated development environment that unifies the journey across Linux® and real-time OS. Preloaded on the Arduino UNO Q, Arduino App Lab combines Arduino Sketches, Python® scripts, and containerized AI models into fully integrated applications all managed from a single interface.

Ready-to-use Apps and Bricks

Get started fast with Arduino Apps, self-contained examples with everything you need. Add plug-and-play features to your projects with pre-built Bricks to accelerate your ideas even more.

Pre-loaded AI Models

With pre-loaded AI models in Arduino App Lab, you can leverage the real-world data for a wide range of capabilities such as object/human detection, anomaly detection, image classification, sound recognition, and keyword spotting.

Find out more in our [official documentation](#).

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Need Help?

Check the Arduino Forum for questions about the [Arduino Language](#) or how to make your own [Projects with Arduino](#). If you need any help with your product, please contact the official Arduino User Support through our [Contact us](#) page.

Warranty

You can find your product warranty information [here](#).

Tech Spec

Microprocessor (MPU)	Qualcomm Dragonwing™ QRB2210: Quad-core Arm® Cortex®-A53 @ 2.0 GHz Adreno GPU 3D graphics accelerator 2x ISP (13 MP + 13 MP or 25 MP) @ 30 fps
Microcontroller (MCU)	STM32U585 Arm® Cortex®-M33 up to 160 MHz

	2 MB flash memory 786 KB SRAM
RAM	4 GB LPDDR4
Power Supply	From USB-C connector 5 VDC max at 3 A Input Voltage (VIN): 5 VDC
Storage	32 GB eMMC
USB	1× USB-C port with host/device role switching, power role switch and video output
Connectivity	Wi-Fi® 5 2.4/5GHz with onboard antenna Bluetooth® 5.1 with onboard antenna
Interfaces	I2C/I3C SPI PWM CAN UART PSSI GPIO JTAG ADC
Video	Video output support via USB-C MIPI DSI pins on JMEDIA header
Extra	4× RGB user-controllable LEDs 8x13 Blue LED Matrix 1x Qwiic connector voltage 3V3, I2C 1x User push-button JCTL: MPU Remote Debug connector
Audio	Microphone IN / Headphone OUT / Line OUT on JMISC

Dimensions	68.85 mm x 53.34 mm (UNO form factor)
MPU Operating System	Linux Debian OS with upstream support
Real-time Operating System	Arduino Core on Zephyr OS
Containerization	Docker and Docker Compose support
Supported Operating Systems for Arduino App Lab	Windows: Windows 10 or later (64-bit) macOS: macOS 11 or later (64-bit) Linux: Ubuntu 22.04 or later, and Debian Trixie (64-bit)