Cardputer UNO Q

SKU:CXXX

Work in progress

This page is still being updated. Some specifications and documentation are pending confirmation. Please refer to the final published information.



Description

Cardputer UNO Q is a pocket **Linux** computer expansion kit for makers and developers. Paired with an **Arduino UNO Q** single-board computer, it brings Linux computing, keyboard input, display interaction, and peripheral expansion together in a portable enclosure. It integrates a 1.9-inch display, a 46-key matrix keyboard, an IMX219 8MP camera, a BMI270 IMU, an RTC, and an infrared transmitter and receiver. The UNO Q's quad-core Cortex-A53 @ 2.0 GHz application processor and STM32U585 real-time MCU support Linux application development and real-time hardware control. UNO Q also provides dual-band Wi-Fi 5 and Bluetooth 5.1 wireless connectivity. The carrier board features an STM32G070CBT6 peripheral MCU and provides microSD, Qwiic, Grove I2C / UART, and a Cap expansion bus. The product also includes a PDM microphone, a speaker, a 3.5mm audio interface, and a built-in 1400mAh lithium battery. It is suitable for portable terminals, IoT device debugging, portable vision and sensor prototyping, maker education, and field data collection.

Version Information

This product requires an Arduino UNO Q single-board computer. **Cardputer UNO Q Kit** includes an Arduino UNO Q single-board computer (2GB LPDDR4X + 16GB eMMC). **Cardputer UNO Q** is an expansion kit that requires users to supply and install their own Arduino UNO Q single-board computer.

Features

- Core Performance
  - Arduino UNO Q single-board computer
  - Qualcomm Dragonwing QRB2210, quad-core Arm Cortex-A53 @ 2.0 GHz
  - Onboard STM32U585, Arm Cortex-M33 real-time MCU
- Peripheral Control
  - Onboard STM32G070CBT6 communicates with the UNO Q application processor via SPI
  - Provides I2C, UART, SPI, PWM, and GPIO interfaces for downstream peripherals, including the keyboard controller, sensors, and expansion interfaces
- Human-Machine Interaction

- 1.9" LCD @ 320 x 170 (JD9852A)
- 46-key matrix keyboard with 3 modifier key indicators
- IMX219 8MP camera
- BMI270 IMU
- Infrared transmitter + receiver

- Wireless Connectivity
  - Dual-band Wi-Fi 5 (2.4 GHz / 5 GHz)
  - Bluetooth 5.1

- External Expansion
  - 1x microSD card slot with card detection
  - 2x Qwiic ports, connected to the UNO Q onboard MCU and the Cardputer UNO Q carrier board MCU, respectively
  - Grove PORT.A I2C port and Grove PORT.C UART port
  - Top Cap expansion bus and reserved UNO Q expansion bus connections on the bottom

- Audio
  - Onboard PDM digital microphone and speaker amplifier
  - 3.5mm TRRS audio input / output with software-selectable CTIA / OMTP microphone wiring

- Power Management
  - DC 3.7V@1400mAh lithium battery
  - BQ27220YZFR fuel gauge with battery NTC sensing
  - Standby and deep sleep modes, with timed wake-up supported by the RX8130CE RTC
  - Power switch and power-path selection switch
  - Charging and system activity indicators
  - USB Type-C power input and charging, with a CH9102F USB-to-UART interface for system log debugging

Includes

Cardputer UNO Q Kit

- 1 x Cardputer UNO Q
- 1 x Arduino UNO Q single-board computer (2GB LPDDR4X + 16GB eMMC)

Cardputer UNO Q

- 1 x Cardputer UNO Q

Specifications

Specification	Parameter
Core Platform	Arduino UNO Q single-board computer
CPU	Qualcomm Dragonwing QRB2210, 64-bit quad-core Arm Cortex-A53 @ 2.0 GHz
GPU	Adreno 702 @ 845 MHz
Real-Time MCU	UNO Q onboard STM32U585, Arm Cortex-M33, up to 160 MHz
Memory	2GB LPDDR4X (Kit version)
Onboard Storage	16GB eMMC (Kit version)
Wi-Fi	Dual-band Wi-Fi 5 (2.4 GHz / 5 GHz), 802.11 a/b/g/n/ac
Bluetooth	Bluetooth 5.1
Peripheral MCU	Cardputer UNO Q carrier board STM32G070CBT6, 128KB Flash, 36KB SRAM, for keyboard, sensor, backlight, IR, and expansion interface control
Display	1.9" LCD @ 320 x 170, JD9852A, MIPI DSI interface
Camera	IMX219 8MP
Keyboard	46-key matrix keyboard, TCA8418 controller, 3 modifier key indicators
Status Indicators	2 charging indicators (red for charging, green for fully charged), 1 green system activity indicator
Storage Expansion	1x microSD card slot with card detection
IMU	BMI270
RTC	RX8130CE
Infrared	Transmitter + receiver, XL-IRM-V838M3/TR receiver
Microphone	Onboard LMD4020T261-OAC23 PDM digital microphone
Speaker Amplifier	AW8010AFCR
Audio Interface	3.5mm TRRS with software-selectable CTIA / OMTP microphone wiring
Expansion Interfaces	2x Qwiic ports, Grove PORT.A (I2C), Grove PORT.C (UART), top Cap expansion bus, reserved UNO Q expansion bus connections on the bottom
USB-to-UART	CH9102F, connected to the system UART for log debugging
Built-in Battery	DC 3.7V@1400mAh lithium battery
Fuel Gauge	BQ27220YZFR with battery NTC sensing
Power Input	USB Type-C, DC 5V@2A
Power Switches	1x power switch (system power on / off), 1x power-path selection switch

For UNO Q platform specifications, refer to the Arduino UNO Q Official Datasheet.

Product Comparison

Product Compare			
	Cardputer UNO Q Kit	**Cardputer UNO Q**	**CardputerZero**
SKU	CXXX	CXXX	C154-V1
Core	Arduino UNO Q (included)	Arduino UNO Q (not included)	Raspberry Pi CM0
CPU	Quad-core Cortex-A53 @ 2.0 GHz	/	Quad-core Cortex-A53 @ 1 GHz
Memory	2GB LPDDR4X	/	512 MB LPDDR2
System Storage	16GB eMMC	/	32GB microSD (included)
Real-time MCU	✅ STM32U585	✅ STM32U585	❌
Wi-Fi & BT	Dual-band Wi-Fi 5 + Bluetooth 5.1	Dual-band Wi-Fi 5 + Bluetooth 5.1	2.4 GHz Wi-Fi 4 + Bluetooth 4.2
Ethernet	❌	❌	✅
USB-A 2.0	❌	❌	✅
8MP Camera	✅	✅	✅
IMU BMI270	✅	✅	✅
IR Transmitter + Receiver	✅	✅	✅
Qwiic Port	✅ x2	✅ x2	❌
Grove Port	PORT.A (I2C) + PORT.C (UART)	PORT.A (I2C) + PORT.C (UART)	1x HY2.0-4P (I2C / UART switchable)
Built-in Battery	1400mAh	1400mAh	1750mAh