



Zwingenstrasse 6-8, A-2380 Perchtoldsdorf
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Uno Q Carrier Board

User Manual

Document Version	V1.0
Applicable Product	Carrier Board + Arduino UNO Q
Core Firmware Version	ArduinoUNO-Q_System-v7.0.0
Driver Package Version	ArduinoUNO-Q_Carrier-DisplayConfig-v1.0.1
Document Date	June 2026

1. Product Overview

The Carrier Board must be used together with the Arduino UNO Q. It provides rich peripheral interface expansion capabilities for the Arduino UNO Q, including DSI touchscreen interface, HDMI display output, dual camera interfaces, audio, and more. This manual provides detailed instructions for hardware installation, interface description, firmware flashing, and display configuration.

2. Package Contents

After opening the package, please verify that the following items are included:

No.	Item	Quantity
1	Carrier Board	1 pc
2	Mounting Screws	6 pcs
3	Type-C Data Cable	1 pc
4	User Manual	1 copy



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3. Hardware Installation

3.1 Pre-Installation Preparation

Before installation, please prepare the following items:

- Carrier Board x 1
- Arduino UNO Q x 1
- Type-C Data Cable x 1
- Mounting Screws x 3 (3 used for installation, 3 spare)

Each item is shown below:



Carrier Board



Arduino UNO Q



Type-C Cable



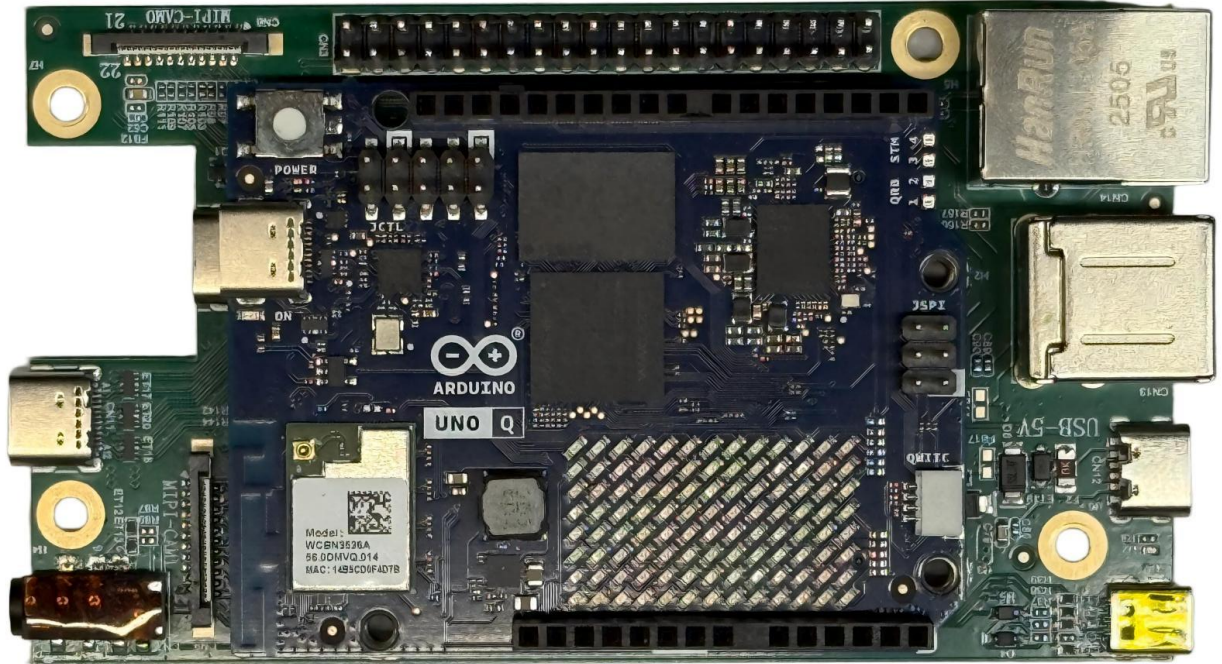
Screws

3.2 Installation Steps

Step 3.1: Align and install the Carrier Board onto the Arduino UNO Q, as shown below:



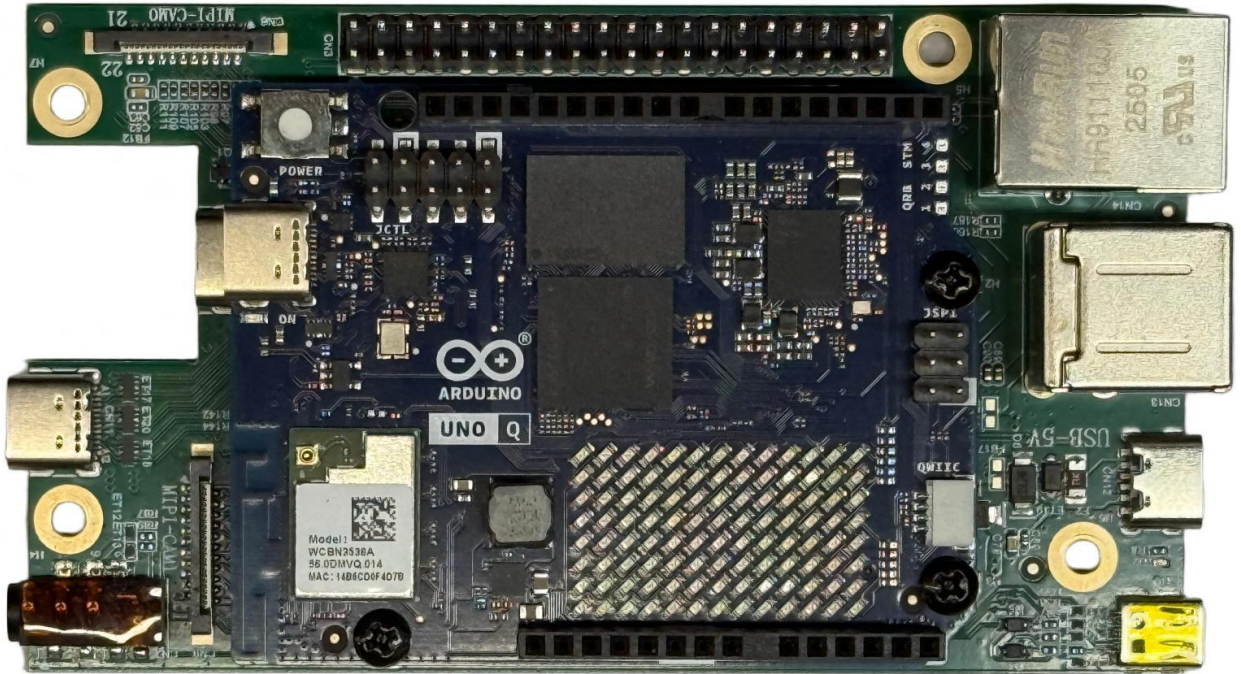
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Step 3.2: Secure the board with 3 screws, as shown below:



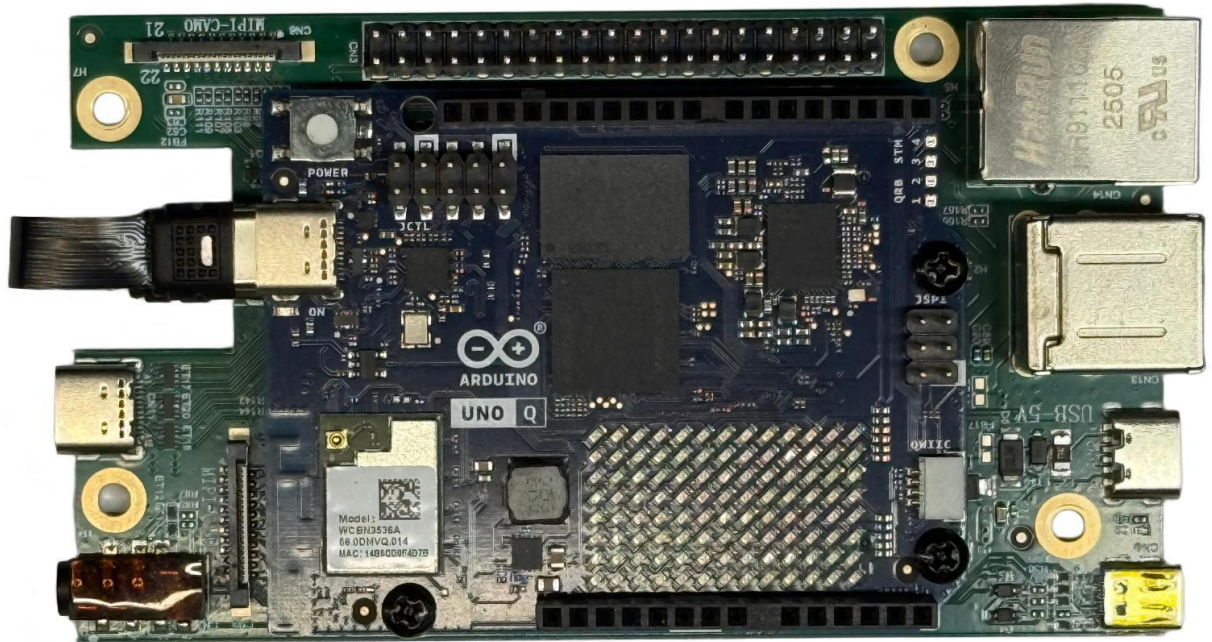
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Step 3.3: Connect the Type-C data cable, as shown below:



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Tip: During installation, ensure the pin headers on the carrier board and Arduino UNO Q are fully aligned. Avoid inserting at an angle, which may bend or damage the pins.

4. Interface Description

4.1 Interface Overview

The Carrier Board provides the following interfaces. The quantity and function of each interface are listed in the table below:



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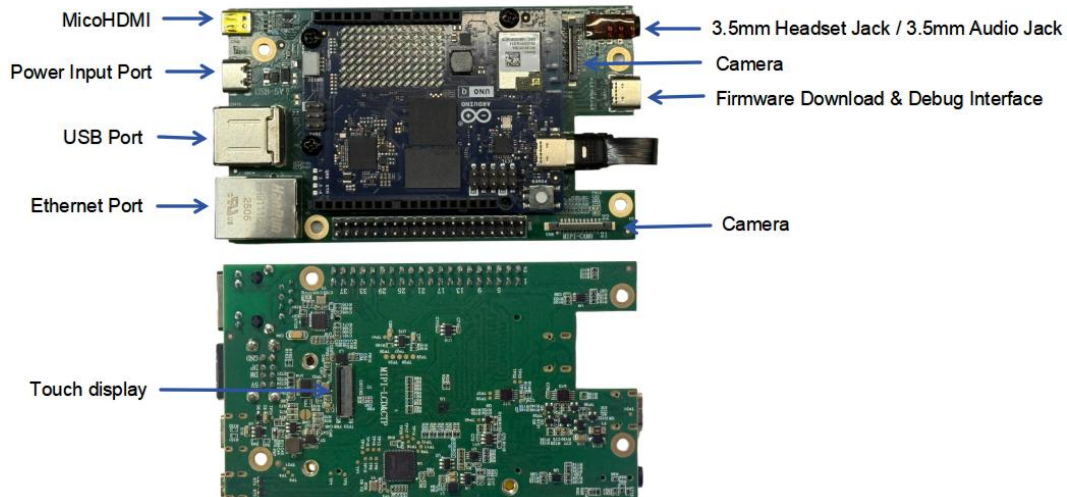
No.	Interface Name	Qty
1	USB-5V Power Interface (Type-C)	1
2	Micro-HDMI Display Interface	1
3	USB 2.0 HOST Interface (Type-A)	2
4	10/100M Ethernet Interface (RJ45)	1
5	MCU User GPIO Interface (Pin Header)	1
6	MIPI Camera Interface (FPC)	2
7	USB Type-C TO Arduino Interface	1
8	USB Type-C Interface for Flashing/Debug	1
9	3.5mm Audio Jack Interface	1
10	Board-to-Board Connector for Core Board	2
11	MIPI-LCD & CTP Interface (FPC)	1
12	Mounting Screw Holes	3

4.2 Interface Layout

The layout of each interface on the Carrier Board is shown below:



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IMPORTANT: When both a Touch Display and an HDMI monitor are connected simultaneously, the system only supports HDMI display output; the Touch Display will not show any output.

4.3 Main Interface Pin Definitions

The following are the pin function definitions of the main interfaces on the carrier board, for hardware development and debugging reference.

CN4: Micro-HDMI Interface (CON_MICRO_HDMI_SD46765001)

Pin	Signal (SYMBOL)	Description
1	HDMI_TX_HPD	Hot Plug Detect
2	/	Reserved
3	HDMI_TX2P	TMDS Data2+
4	GND	Ground
5	HDMI_TX2N	TMDS Data2-
6	HDMI_TX1P	TMDS Data1+
7	GND	Ground



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8	HDMI_TX1N	TMDS Data1-
9	HDMI_TX0P	TMDS Data0+
10	GND	Ground
11	HDMI_TX0N	TMDS Data0-
12	HDMI_TXCP	TMDS Clock+
13	GND	Ground
14	HDMI_TXCN	TMDS Clock-
15	HDMI_TX_CEC	CEC Control
16	GND	Ground
17	HDMI_TX_SCL	DDC Clock
18	HDMI_TX_SDA	DDC Data
19	VCC5V_HDMI_TX	5V Power

CN12: USB-5V Power Interface (CON_USB-TYPE-C-009)

Pin	Signal (SYMBOL)	Description
B12	GND	Ground
B9	VUBS4	VBUS 4
A5	CC1	Configuration Channel 1
B5	CC2	Configuration Channel 2
A9	VUBS2	VBUS 2
A12	GND	Ground



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CN13: USB 2.0 HOST Interface (CON_USB_A2_USB-269-BRW)

Pin	Signal (SYMBOL)	Description
1	USB_HOST_5V	5V Power
2	USB_HUB_D1_M	USB Data1-
3	USB_HUB_D1_P	USB Data1+
4	GND	Ground
5	USB_HOST_5V	5V Power
6	USB_HUB_D2_M	USB Data2-
7	USB_HUB_D2_P	USB Data2+
8	GND	Ground

CN11: USB Type-C Interface for Flashing/Debug (CON_USB_TYPEC_507DSW)

Pin	Signal (SYMBOL)	Description
A1	GND	Ground
A2	USB_SS1_TX_P	SuperSpeed TX1+
A3	USB_SS1_TX_M	SuperSpeed TX1-
A4	USB_VBUS	VBUS Power
A5	USB_CC1	Config Channel 1
A6	USB_DP	USB Data+
A7	USB_DM	USB Data-
A8	USB_SBU1	Sideband Use 1



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A9	USB_VBUS	VBUS Power
A10	USB_SS2_RX_M	SuperSpeed RX2-
A11	USB_SS2_RX_P	SuperSpeed RX2+
A12	GND	Ground
B1	GND	Ground
B2	USB_SS2_TX_P	SuperSpeed TX2+
B3	USB_SS2_TX_M	SuperSpeed TX2-
B4	USB_VBUS	VBUS Power
B5	USBC_CC2	Config Channel 2
B6	USB_DP	USB Data+
B7	USB_DM	USB Data-
B8	USB_SBU2	Sideband Use 2
B9	USB_VBUS	VBUS Power
B10	USB_SS1_RX_M	SuperSpeed RX1-
B11	USB_SS1_RX_P	SuperSpeed RX1+
B12	GND	Ground

NOTE: The USB Type-C interface for flashing/debug does NOT support direct connection to a computer's USB Type-C port. Please use the computer's USB Type-A port, or use a Type-C to USB-A adapter for connection.

CN10: USB Type-C TO Arduino Interface (CON_USB_TYPEC_507DSW)



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Pin	Signal (SYMBOL)	Description
A1	GND	Ground
A2	USB_SS1_TX_P	SuperSpeed TX1+
A3	USB_SS1_TX_M	SuperSpeed TX1-
A4	USB_VBUS	VBUS Power
A5	USB_CC1	Config Channel 1
A6	USB_DP	USB Data+
A7	USB_DM	USB Data-
A8	USB_SBU1	Sideband Use 1
A9	USB_VBUS	VBUS Power
A10	USB_SS2_RX_M	SuperSpeed RX2-
A11	USB_SS2_RX_P	SuperSpeed RX2+
A12	GND	Ground
B1	GND	Ground
B2	USB_SS2_TX_P	SuperSpeed TX2+
B3	USB_SS2_TX_M	SuperSpeed TX2-
B4	USB_VBUS	VBUS Power
B5	USBC_CC2	Config Channel 2
B6	USB_DP	USB Data+
B7	USB_DM	USB Data-
B8	USB_SBU2	Sideband Use 2



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B9	USB_VBUS	VBUS Power
B10	USB_SS1_RX_M	SuperSpeed RX1-
B11	USB_SS1_RX_P	SuperSpeed RX1+
B12	GND	Ground

CN14: 10/100M Ethernet Interface (CON_RJ45_HR911105A)

Pin	Signal (SYMBOL)	Description
1	TD+	Transmit Data+
2	TD-	Transmit Data-
3	RD+	Receive Data+
4	P4	Reserved
5	P5	Reserved
6	RD-	Receive Data-
7	/	Reserved
8	CHS-GND	Chassis Ground
9	G+	LED Green+
10	G-	LED Green-
11	Y-	LED Yellow-
12	Y+	LED Yellow+
13	PD1	Reserved
14	PD2	Reserved



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CN3: MCU User GPIO Interface (HEADER_PIN_DIP20*2_2.54mm)

Pin	Signal (SYMBOL)	Description
1	PWR_3P3V	3.3V Power
2	USB_VIN_5V	5V Power
3	MCU_I2C4_SDA_PF15	I2C4 Data
4	USB_VIN_5V	5V Power
5	MCU_I2C4_SCL_PF14	I2C4 Clock
6	GND	Ground
7	MCU_PSSI_D5_PI4	PSSI Data5
8	MCU_OPAMP1_VINP_PA0	Op-Amp Non-inverting Input
9	GND	Ground
10	MCU_OPAMP1_VINM_PA1	Op-Amp Inverting Input
11	MCU_PSSI_RDY_PI5	PSSI Ready
12	MCU_OPAMP1_VOUT_PA3	Op-Amp Output
13	MCU_PSSI_D6_PI6	PSSI Data6
14	GND	Ground
15	MCU_PSSI_D7_PI7	PSSI Data7
16	MCU_MCO_PA8	Master Clock Output
17	PWR_3P3V	3.3V Power
18	MCU_CRS_SYNC_PA10	Clock Recovery Sync
19	MCU_PSSI_D0_PC6	PSSI Data0



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20	GND	Ground
21	MCU_PSSI_D1_PC7	PSSI Data1
22	MCU_SDMMC1_CMD_PD2	SDMMC Command
23	MCU_PSSI_D2_PC8	PSSI Data2
24	MCU_PSSI_D3_PC9	PSSI Data3
25	GND	Ground
26	/	Reserved
27	/	Reserved
28	/	Reserved
29	MCU_TRACE_CLK_PE2	TRACE Clock
30	GND	Ground
31	MCU_TRACE_D0_PE3	TRACE Data0
32	MCU_PSSI_DE_PD8	PSSI Data Enable
33	MCU_PSSI_D4_PE4	PSSI Data4
34	GND	Ground
35	MCU_TRACE_D2_PE5	TRACE Data2
36	MCU_PSSI_PDCK_PD9	PSSI Pixel Clock
37	MCU_TRACE_D3_PE6	TRACE Data3
38	MCU_PE7	General Purpose IO
39	GND	Ground
40	MCU_PE8	General Purpose IO



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CN8 / CN9: MIPI Camera Interface (CON_FPC22_0.5mm)

Pin	Signal (SYMBOL)	Description
1	GND	Ground
2	CSIO_LNOM	MIPI Data0-
3	CSIO_LNOP	MIPI Data0+
4	GND	Ground
5	CSIO_LN1M	MIPI Data1-
6	CSIO_LN1P	MIPI Data1+
7	GND	Ground
8	CSIO_CLKM	MIPI Clock-
9	CSIO_CLKP	MIPI Clock+
10	GND	Ground
11	CSIO_LN2M	MIPI Data2-
12	CSIO_LN2P	MIPI Data2+
13	GND	Ground
14	CSIO_LN3M	MIPI Data3-
15	CSIO_LN3P	MIPI Data3+
16	GND	Ground
17	CSIO_PWREN_3V3	Power Enable
18	CSIO_PWREN_3V3	Power Enable
19	GND	Ground



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20	CCL_I2C_SCL0_3V3	I2C Clock
21	CCL_I2C_SDA0_3V3	I2C Data
22	PWR_3P3V	3.3V Power
23	GND	Ground
24	GND	Ground

CN5: MIPI-LCD & CTP Interface (CON_FH35C-39S-0.35mm)

Pin	Signal (SYMBOL)	Description
1	LCD_LED_A	Backlight Anode
2	LCD_LED_A	Backlight Anode
3	/	Reserved
4	LCD_LED_K	Backlight Cathode
5	LCD_LED_K	Backlight Cathode
6	/	Reserved
7	/	Reserved
8	CTP_RST	Touch Reset
9	CTP_INT	Touch Interrupt
10	CTP_I2C_SDA	Touch I2C Data
11	CTP_I2C_SCL	Touch I2C Clock
12	GND	Ground
13	/	Reserved



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14	CTP-3V3	Touch 3.3V Power
15	GND	Ground
16	LCM_MIPI_RST_1V8	LCD Reset
17	/	Reserved
18	/	Reserved
19	/	Reserved
20	/	Reserved
21	GND	Ground
22	LCD_1V8	LCD 1.8V Power
23	LCD_3V3	LCD 3.3V Power
24	GND	Ground
25	MIPI_DSI_D0N	MIPI DSI Data0-
26	GND	Ground
27	MIPI_DSI_D0P	MIPI DSI Data0+
28	MIPI_DSI_D1N	MIPI DSI Data1-
29	GND	Ground
30	MIPI_DSI_D1P	MIPI DSI Data1+
31	MIPI_DSI_CLKN	MIPI DSI Clock-
32	GND	Ground
33	MIPI_DSI_CLKP	MIPI DSI Clock+
34	MIPI_DSI_D2N	MIPI DSI Data2-



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35	GND	Ground
36	MIPI_DSI_D2P	MIPI DSI Data2+
37	MIPI_DSI_D3N	MIPI DSI Data3-
38	GND	Ground
39	MIPI_DSI_D3P	MIPI DSI Data3+
40	GND	Ground
41	GND	Ground

4.4 Electrical Specifications and Operating Conditions

Item	Parameter
Input Voltage	DC 5V
Operating Temperature	-20°C ~ 55°C
Relative Humidity	5% ~ 95% (non-condensing)
Storage Environment	Anti-static, moisture-proof, anti-compression

Note: The contents of this specification are subject to change. Please refer to the actual product for the latest information.

5. Software and Firmware Configuration

5.1 Prerequisites

Before starting the configuration, please download the firmware packages from the following Google Drive link, which contains the two firmware packages below:



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Firmware Download Link:

https://downloads.codico.com/misc/customer/UnoQ_SBC_21O55Z9KEWH4K1RELMZ0V9W08D1Y7TU1/

No.	Package Name	Description
1	ArduinoUNO-Q_System-v7.0.0_202606.zip	Core System Firmware Package
2	ArduinoUNO-Q_Carrier-DisplayConfig-v1.0.1_202606.zip	Display and Peripheral Driver Configuration Package for v1.0.1 hardware
3	ArduinoUNO-Q_Carrier-DisplayConfig-v1.0.2_202610	ArduinoUNO-Q_Carrier-DisplayConfig-v1.0.2_202610 for v1.0.2 hardware

Please extract each zip package into a separate folder. It is recommended that the extraction path does not contain Chinese characters or spaces.

5.2 Check Linux Kernel Version

Before installing the drivers, you must first verify the current kernel version of the development board. Only Linux uno-q 7.0.0 can directly install the drivers; other versions require flashing the core system firmware first.

Step 5.1: First plug the 5V/2A power adapter into the board's power port, then immediately connect the board to the computer using the Type-C cable.

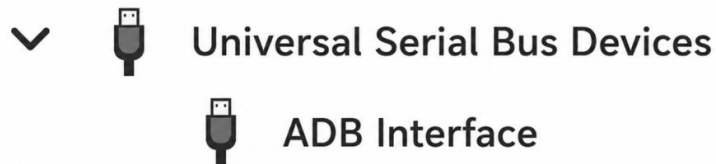


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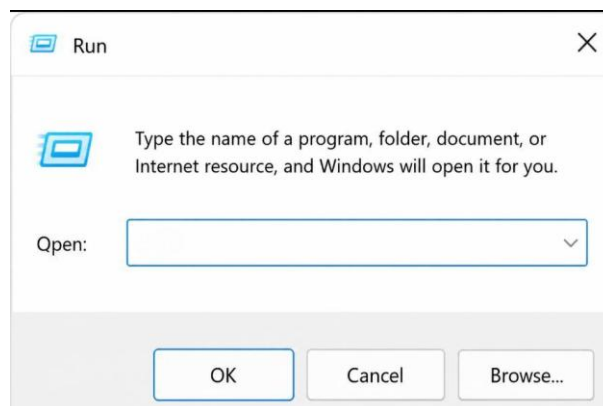


You MUST plug in the power first, then connect the USB cable to the computer. The order must not be reversed!

Step 5.2: Open Device Manager and confirm the device is connected and in ADB Mode, as shown below:



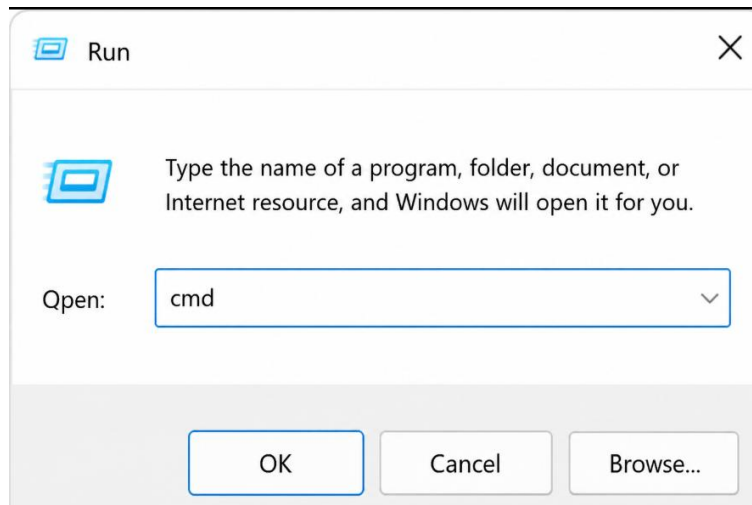
Step 5.3: Press the Win + R key combination to open the Run dialog box:



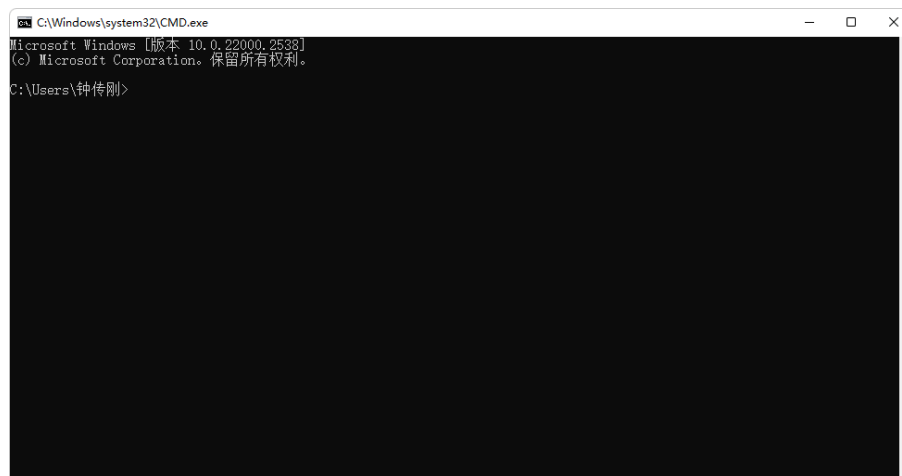
Step 5.4: Type cmd, then click OK or press Enter:



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Step 5.5: The Command Prompt (CMD) window opens successfully:



Step 5.6: In the CMD window, type the following command and press Enter to enter the device's ADB Shell:

```
adb shell
```

If the window shows the `arduino@uno-q:~$` prompt, the device is connected successfully:



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```
arduino@uno-q: ~  
Microsoft Windows [版本 10.0.22000.2538]  
(c) Microsoft Corporation. 保留所有权利。  
C:\Users\钟传刚>adb shell  
arduino@uno-q: $
```

Step 5.7: Type the following command and press Enter to check the current kernel version:

```
uname -a
```

The command output is shown below:

```
arduino@uno-q: ~  
Microsoft Windows [版本 10.0.22000.2538]  
(c) Microsoft Corporation. 保留所有权利。  
C:\Users\钟传刚>adb shell  
arduino@uno-q: $ uname -a  
Linux uno-q 7.0.0-g122c2c22d838 #1 SMP PREEMPT Tue May 19 15:08:13 UTC 2026 aarch64 GNU/Linux  
arduino@uno-q: $
```



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```
选择 arduino@uno-q: /
Microsoft Windows [版本 10.0.22000.2538]
(c) Microsoft Corporation. 保留所有权利。

C:\Users\钟传刚>adb shell
arduino@uno-q:/$ uname -a
Linux uno-q 6.16.7-g0dd6551ae96b #1 SMP PREEMPT Wed Dec 10 14:36:39 UTC 2025 aarch64 GNU/Linux
arduino@uno-q:/$
```

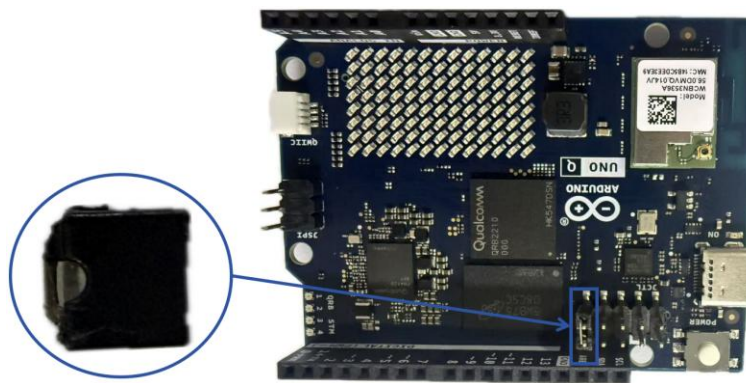
Version determination:

- If it shows Linux uno-q 7.0.0 → No re-flashing required; skip directly to Section 5.4 to install the display and peripheral driver package.
- If it shows Linux uno-q 6.16.7 or any other version → You must first flash the core system firmware package per Section 5.3 to upgrade to version 7.0.0.

5.3 Flash Core System Firmware (If required)

If the kernel version is not 7.0.0, please follow the steps below to flash the core system firmware.

Step 5.8: Power off the development board. Install the jumper cap on the core board to enter download (flashing) mode, as shown below:





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Step 5.9: First plug in the 5V/2A power supply, then immediately connect the USB cable to the computer:



Step 5.10: Open Device Manager and confirm the device is in download mode, as shown below:



Step 5.11: Open the core system firmware package folder and double-click to run Click Run.bat. During flashing, you will need to type yes to confirm. Wait for the flashing to complete, then disconnect the power and the USB cable:



Do NOT power off or unplug the USB cable during flashing, as this may brick the device. After flashing is complete, please remove the jumper cap before proceeding with subsequent operations.

5.4 Install Display and Peripheral Driver Package

After confirming the kernel version is 7.0.0, follow the steps below to install the display and peripheral driver package.

Step 5.12: First plug in the 5V/2A power supply, then immediately connect the USB cable to the computer. Wait approximately 10 seconds, open Device Manager, and confirm the device is connected and in ADB Mode:



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Universal Serial Bus Devices



ADB Interface

Step 5.13: Open the display and peripheral driver package folder and double-click to run Click Run.bat:



Step 5.14: A command line window will pop up. If the window shows the `arduino@uno-q:~$` prompt, the device is connected successfully:

```
arduino@uno-q: ~  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb wait-for-device  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "rm /home/arduino/*deb -rf && sync"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb push ./ /home/arduino  
./: 10 files pushed, 0 skipped. 28.6 MB/s (143539945 bytes in 4.778s)  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "chmod 777 /home/arduino/install.sh"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell  
arduino@uno-q:~$
```

Step 5.15: In the command line window, type the following command and press Enter to enter the driver directory:

```
cd
```



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```
arduino@uno-q: ~  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb wait-for-device  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "rm /home/arduino/*deb -rf && sync"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb push ./ /home/arduino  
./: 10 files pushed, 0 skipped. 28.6 MB/s (143539945 bytes in 4.778s)  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "chmod 777 /home/arduino/install.sh"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell  
arduino@uno-q: $ cd  
arduino@uno-q: $
```

Step 5.16: Type the following command and press Enter to grant execution permission to the install script and run it:

```
chmod 777 install.sh && ./install.sh
```

```
arduino@uno-q: ~  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb wait-for-device  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "rm /home/arduino/*deb -rf && sync"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb push ./ /home/arduino  
./: 10 files pushed, 0 skipped. 28.6 MB/s (143539945 bytes in 4.778s)  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "chmod 777 /home/arduino/install.sh"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell  
arduino@uno-q: $ cd  
arduino@uno-q: $ chmod 777 install.sh && ./install.sh  
sudo: Account or password is expired, reset your password and try again  
New password: 
```

Step 5.17: During installation, you will be prompted to set a password (we recommend using arduino for easy memorization). Type the password and press Enter, then re-enter it to confirm:



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```
arduino@uno-q: ~  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb wait-for-device  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "rm /home/arduino/*deb -rf && sync"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb push ./ /home/arduino  
./: 10 files pushed, 0 skipped. 28.6 MB/s (143539945 bytes in 4.778s)  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "chmod 777 /home/arduino/install.sh"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell  
arduino@uno-q: $ cd  
arduino@uno-q: $ chmod 777 install.sh && ./install.sh  
sudo: Account or password is expired, reset your password and try again  
New password:  
Retype new password:
```

Tip: No characters will be displayed on screen while typing the password. This is normal behavior — simply type the password and press Enter.

Step 5.18: After the password is set, the installation will proceed automatically. When complete, as shown below, press any key on the keyboard and the window will close automatically:

```
arduino@uno-q: ~  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb wait-for-device  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "rm /home/arduino/*deb -rf && sync"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb push ./ /home/arduino  
./: 10 files pushed, 0 skipped. 28.6 MB/s (143539945 bytes in 4.778s)  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell "chmod 777 /home/arduino/install.sh"  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>adb shell  
arduino@uno-q: $ cd  
arduino@uno-q: $ chmod 777 install.sh && ./install.sh  
sudo: Account or password is expired, reset your password and try again  
New password:  
Retype new password:  
Created symlink /etc/systemd/system/graphical.target.wants/setup-display.service → /etc/systemd/system/setup-display.service.  
Selecting previously unselected package linux-image-7.0.0-g0b721f4d2-306 ...  
Reading database ... 6317 files and directories currently installed.  
Preparing to unpack linux-image-7.0.0-g0b721f4d2-306_arm64.deb ...  
Unpacking linux-image-7.0.0-g0b721f4d2-306 (7.0.0-g0b721f4d2-306) ...  
Selecting previously unselected package linux-image-7.0.0-g0b721f4d2-306 ...  
Preparing to unpack linux-image-7.0.0-g0b721f4d2-306_arm64.deb ...  
Unpacking linux-image-7.0.0-g0b721f4d2-306 (7.0.0-g0b721f4d2-306) ...  
Selecting previously unselected package linux-libc-dev:arm64 (7.0.0-g0b721f4d2-306) ...  
Preparing to unpack linux-libc-dev:arm64 (7.0.0-g0b721f4d2-306) ...  
Unpacking linux-libc-dev:arm64 (7.0.0-g0b721f4d2-306) ...  
Setting up linux-image-7.0.0-g0b721f4d2-306 (7.0.0-g0b721f4d2-306) ...  
update-initramfs: Generating /boot/initrd.img-7.0.0-g0b721f4d2-306  
W: Possible missing firmware /lib/firmware/microchip/mc9304.rev-int851.2m0.bin for built-in driver m9304  
W: Possible missing firmware /lib/firmware/microchip/mc9304.rev-int851.r440.bin for built-in driver m9304  
W: Possible missing firmware /lib/firmware/rtl8794x_usb_v1.dnsm for built-in driver rtl8794x  
W: Possible missing firmware /lib/firmware/rtl8794x_usb.bin for built-in driver rtl8794x  
W: Possible missing firmware /lib/firmware/rtl8794x_usb.bin for built-in driver rtl8794x  
W: Possible missing firmware /lib/firmware/rtl8794x_usb.bin for built-in driver rtl8794x  
W: Possible missing firmware /lib/firmware/rtl8794x_usb.bin for built-in driver rtl8794x  
Updating kernel version 7.0.0-g0b721f4d2-306 in system-boot.  
bootctl: Updating boot/efi/vars using /usr/lib/linimg-image-7.0.0-g0b721f4d2-306 ...  
Installing kernel version 7.0.0-g0b721f4d2-306 in system-boot...  
Setting up linux-image-7.0.0-g0b721f4d2-306 (7.0.0-g0b721f4d2-306) ...  
arduino@uno-q: $  
E:\Desktop\arduino UNO Q\三件套-Arduino_BOX1_V10-已加密-gee0c36944888-306>pause  
请按任意键继续. . .
```



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5.5 Configure Display Driver

After the driver package is installed, you need to enter the corresponding configuration command based on your display type. Supported displays include 5", 7" (720×1280), and 10.1" DSI touchscreens, as well as HDMI external monitors.

Step 5.19: First plug in the 5V/2A power supply, then immediately connect the USB cable to the computer. Wait approximately 10 seconds and confirm the device is in ADB Mode (same as Section 5.2).

Step 5.20: Repeat Steps 5.3 through 5.6 in Section 5.2: Win + R → Type cmd → In the CMD window, type adb shell. Confirm that the `arduino@uno-q:~$` prompt is displayed.

Step 5.21: Based on your display type, enter the corresponding configuration command in the ADB Shell and press Enter:

(1) 5-inch Display:

```
sudo arduino-linux-config carrier enable media-carrier camera0=type1-2lanes camera1=type1-2lanes display=5-dsi-touch-a
```

(2) 7-inch Display (720×1280) and HDMI External Monitor:

```
sudo arduino-linux-config carrier enable media-carrier camera0=type1-2lanes camera1=type1-2lanes display=8-dsi-touch-a
```

Note: The Micro HDMI port and the 7-inch 720×1280 display use the same configuration command. Other display configuration commands do not support HDMI output.

(3) 10.1-inch Display:

```
sudo arduino-linux-config carrier enable media-carrier camera0=type1-2lanes camera1=type1-2lanes display=10-dsi-touch-a
```

Step 5.22: After entering the configuration command and pressing Enter, the system will prompt for a password. Enter the password set in Step 5.17 (default: `arduino`), then press Enter:



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```
arduino@uno-q: ~  
Microsoft Windows [版本 10.0.22000.2538]  
(c) Microsoft Corporation. 保留所有权利。  
  
C:\Users\钟传刚>adb shell  
arduino@uno-q: $ sudo arduino-linux-config carrier enable media-carrier camera0=type1-2lanes camera1=type1-2lanes display=8-dsi-touch-a  
[sudo] password for arduino:  
Incompatible overlays, removing [qrb2210-arduino-imola-video_sound-usbcc.dtbol  
Carrier 'media-carrier' enabled (will take effect on next boot)  
media-carrier [current: disabled] [next: enabled]  
camera0: [current: none] [next boot: type1-2lanes]  
camera1: [current: none] [next boot: type1-2lanes]  
display: [current: none] [next boot: 8-dsi-touch-a]  
  
arduino@uno-q: $
```

Step 5.23: After the password is verified, the system will automatically complete the display configuration. At this point, all configurations are complete.

6. Important Notes

6.1 Display Output Switching

If the board is already connected to a display or HDMI monitor, after entering the configuration command, you need to type the following command to reboot the device and activate the screen:

```
sudo reboot
```

The switching between LCD and HDMI output is determined at boot time:

- If a Micro HDMI cable is plugged in at boot, the device will use HDMI output at 720p
- If no Micro HDMI cable is plugged in at boot, the device will use the LCD display output

HDMI output only supports 720p image resolution.

6.2 Hot-Plugging Limitations

Neither HDMI monitors nor DSI displays support hot-plugging. If you need to change the display device, please follow this order:

- Disconnect the device power first
- Plug in the HDMI monitor or DSI display



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- Then reconnect the power

NEVER plug or unplug the display ribbon cable while powered on, as this may damage the display or motherboard!

6.3 Display Device Mutual Exclusion

The HDMI monitor and DSI display are mutually exclusive — they cannot be used simultaneously. If both are plugged in, the system will prioritize the DSI display interface for output. If you need to use HDMI output, please unplug the LCD display ribbon cable before booting.

6.4 Power Connection Order

Every time the device is powered on, you MUST first plug in the power adapter, then connect the USB/Type-C data cable to the computer. The order must not be reversed, otherwise the device may not be recognized properly or the firmware flashing may fail.

6.5 USB Connection Note

The USB Type-C interface for flashing/debug does NOT support direct connection to a computer's USB Type-C port. Please use the computer's USB Type-A port, or use a Type-C to USB-A adapter for connection. Otherwise, the device may not be recognized or flashing may fail.

7. FAQ and Troubleshooting

Symptom	Possible Cause	Solution
ADB device not detected	Data cable does not support data transfer / Incorrect power-on order	Replace with a Type-C cable that supports data transfer; ensure power is plugged in before USB.
Screen is blank / no display	Display driver not configured / Damage from hot-plugging	Re-run the configuration command for the corresponding screen size; never plug/unplug the display ribbon cable while powered on.



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Micro HDMI port has no signal output	LCD screen signal is prioritized	If HDMI output is required, unplug the LCD display ribbon cable before booting.
--------------------------------------	----------------------------------	---

Additional frequently asked questions:

Q1: The Click Run.bat window closes immediately when flashing the core firmware. What should I do?

- A: 1. Confirm the firmware package files are complete and not blocked by antivirus software;
2. Right-click and select 'Run as administrator';
3. Confirm the jumper cap is properly installed and the device is in download mode.

Q2: Permission denied when installing the driver package. What should I do?

A: Confirm that the install.sh file has been granted execution permission via the chmod 777 command. If the problem persists, check if the driver package has been fully extracted, and ensure the extraction path does not contain Chinese characters or spaces.

Q3: What if I forgot the password?

A: You can re-run the install.sh script in the display and peripheral driver package and reset the password during the installation process.

Q4: The device cannot boot after flashing the firmware. What should I do?

A: Check if the jumper cap has been removed; confirm that power was not interrupted during flashing; if the device still cannot boot, re-enter download mode and flash the core firmware again.