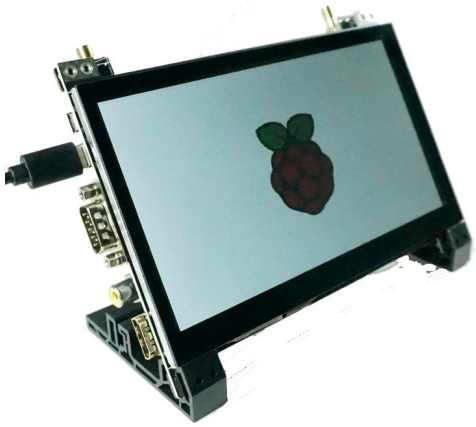
# ElecLab

## 7" HDMI Touchscreen Display

# USER GUIDE



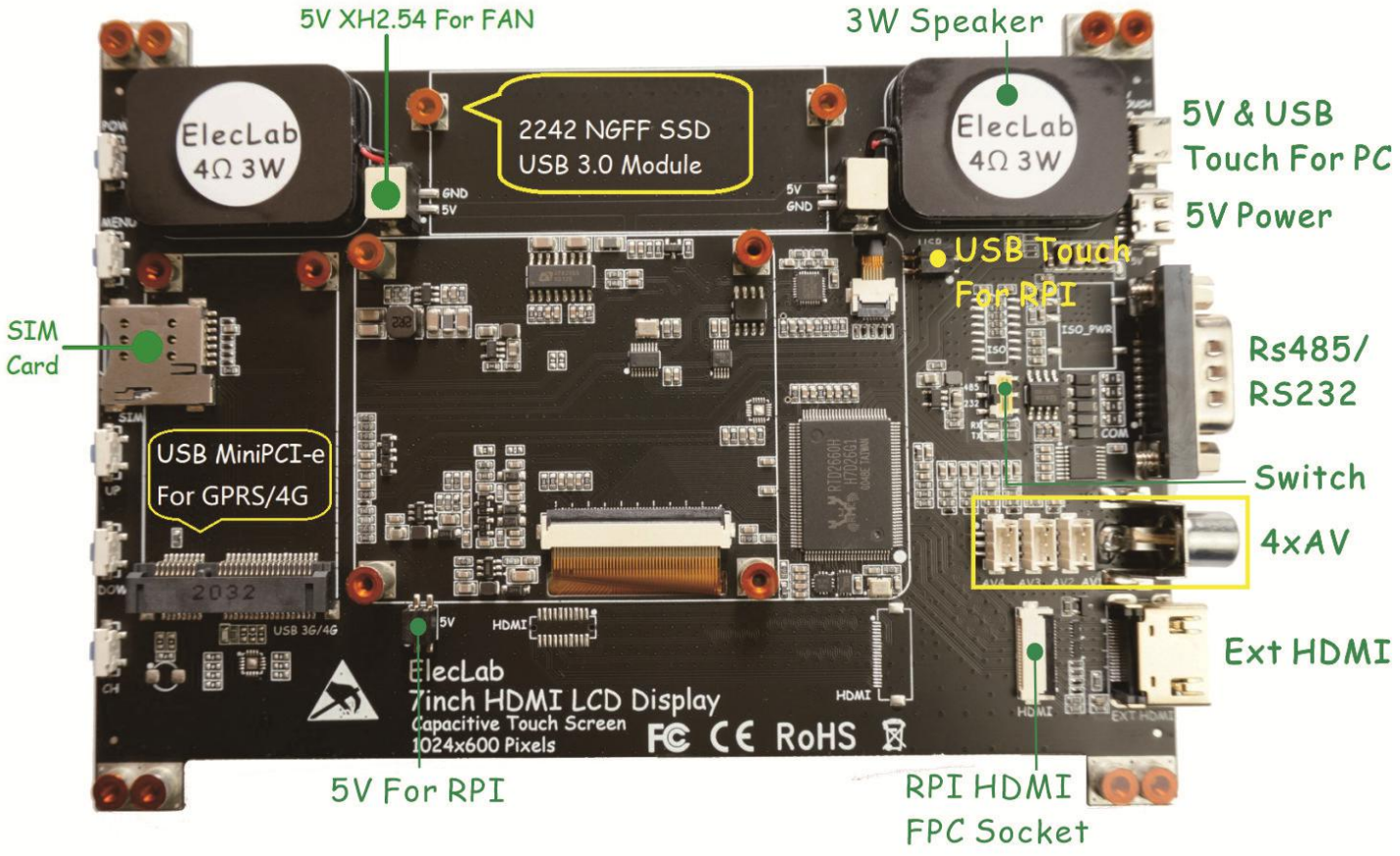
Users need to prepare a Raspberry Pi , a TF card above 8G, a power supply above 4A@5V, and a Buster or Bullseye system image.

Any suggestions, Please contact ElecLab_US@163.com

**Quick To Use**

1. Remove the protective film from the 4 screw posts on the back of the display， and fix the Raspberry Pi to the display with four M2.5x5 screws.
2. Use the RPI4 PWR Board, RPI 4 HDMI FPC, PI4 USB Board to connect Raspberry pi 4 to the display. For Raspberry Pi 1, 2, 3, Please use the RPI3 PWR Board , PI3 HDMI FPC and PI3 USB Board.
3. If you have an ElecLab NGFF SSD board, Fix it to the back of the display with two M2.5x5 screws, Insert the USB 3.0 FPC board into the USB 3.0 socket of the Raspberry Pi 4, and connect them with the FPC cable.
4. Insert a power supply above 5V4A into a type-c socket.
5. If need to use the buttons to adjust the volume of the display, Please directly press the UP/DOWN button to adjust, and press the CH button to exit the adjustment.
6. If need to adjust the brightness, please follow the steps below:
   MENU->MENU->UP->MENU->UP/DOWN->CH->CH->CH, or stop the operation for 10S and automatically exit the setting

**Function introduction**



**Detailed installation steps (Raspberry Pi 4 as an example)**

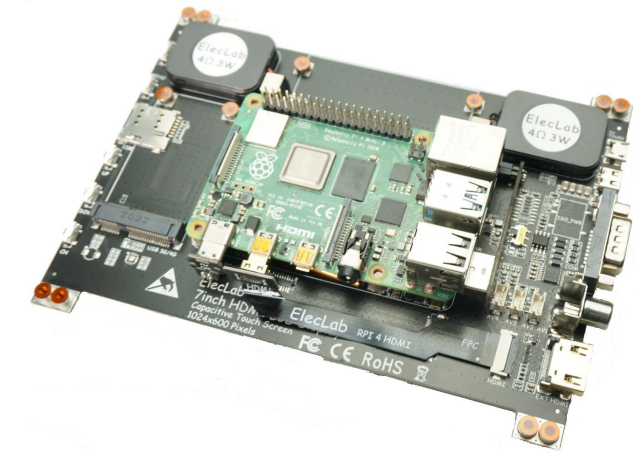
1. Prepare the following three components：

PRI4 TYPE-C board -> Display power supply to raspberry

PRI4 HDMI FPC Cable -> Raspberry Pi HDMI output to display

PRI4 USB board -> Connect touch screen to Raspberry Pi


2. The Raspberry Pi is fixed on the back of the display and then use them to connect the Raspberry Pi to the display.




3. After burning Buster or Bullseye system into the TF card, edit the following in /boot/config.txt, It's important to comment out v3d:

**hdmi_force_hotplug=1**

**hdmi_group=2**

**hdmi_mode=87**

**hdmi_ignore_edid=0xa5000080**

**hdmi_cvt 1024 600 60 6 0 0 0**

**hdmi_drive=2**

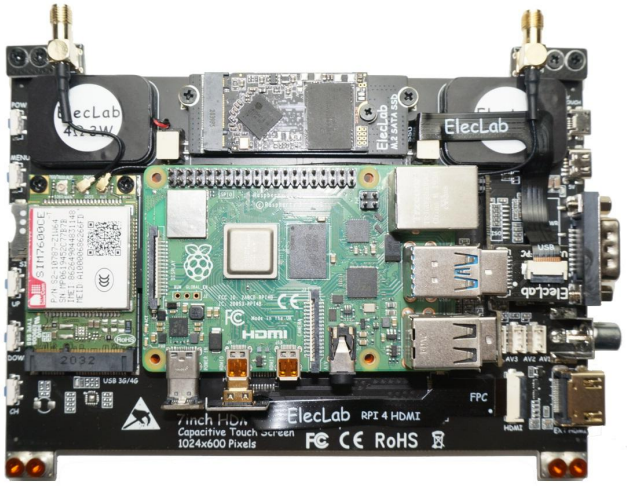
**#dtoverlay=vc4-kms-v3d**

4. Insert the TF card into the Raspberry Pi, Install the bracket and insert the Type-C power cable to the display, And then start running.

5. The bracket has 2 installation methods: 60 degrees and 90 degrees.


**NGFF SSD Description**

1. If users have large storage requirements, Such as Volumio or LibreELEC, ElecLab M.2 2242 NGFF SSD USB3.0 adapter for raspberry pi 4 module can be selected, and SM2246EN+DDR chip SSD is recommended.
2. The user prepares 2242 SSD and SSD USB3.0 adapter.
3. Assemble the SSD module as shown below.




**USB Minipci-e 4G Module Socket Description**

1. The usb minipci-e socket and the sim card socket are used to support the SIM7600 4G module and the sim868 GPRS module. Users can prepare these two modules and the corresponding antenna rods if necessary.

2. This set of display components already contains 2 IPX to SMA antenna extension cables, But they are not installed by default. The user can assemble it as shown above when necessary.

**XH2.54 2PIN 5V Socket Description**

This display has 2 2PIN XH2.54 sockets and they can be used to supply power to the fan, or to supply power to the user's other boards. Please note that the total current should not exceed the safe output current of your 5V power adapter.

**Connect Computer**

Remove the RPI4 HDMI FPC cabel and remove the RPI 4 USB board. The user prepares an HDMI cable to connect the display to the computer, and then uses the USB Micro cable to connect the display to the computer.

**Connect RS232/RS485 External Device**

1. Please refer to eleclab-rpi/7INCH_DSI_DISPLAY/7inch_RS232_RS485_UserGuide.pdf on github.
2. If the 4G module and the USB serial port of the display screen are used at the same time, The alias of the tty device can be set in the /etc/udev/rules.d/99-com.rules as follows, and the alias can be used directly in the program.

KERNEL=="ttyUSB*",KERNELS=="1-1.4.1",MODE:="0777",SYMLINK+="tty_rs232"

KERNEL=="ttyUSB*",KERNELS=="1-1.4.3:1.2",MODE:="0777",SYMLINK+="tty_4g_at"