

Warning:

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

NOTE:

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.

FCC Statement:

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 and, if not installed and used in accordance with the instructions, 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.
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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.

The equipment complies with FCC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

ESP32-S3 7" LCD Development Board

Integrates RGB interface LCD and 5-point capacitive touch (optional)



LX7 Dual-core
Processor



2.4 GHz Wi-Fi



BLE 5



Onboard Antenna



7"



5-Point Touch
(touch version only)



800×480 Pixels



65K RGB

Version Options



ESP32-S3-LCD-7

without touch control



ESP32-S3-Touch-LCD-7

with touch control

Features

This product is a microcontroller development board with 2.4GHz WiFi and BLE 5 support, integrates high-capacity Flash and PSRAM. Onboard 7inch LCD screen can smoothly run GUI programs such as LVGL. Combined with various peripheral interfaces, suitable for the quick development of the HMI and other ESP32-S3 applications

- Equipped with Xtensa 32-bit LX7 dual-core processor, up to 240MHz main frequency
- Supports 2.4GHz Wi-Fi (802.11 b/g/n) and Bluetooth 5 (LE), with onboard antenna
- Built in 512KB of SRAM and 384KB ROM, with onboard 8MB PSRAM and 16MB Flash
- Onboard 7inch LCD display, 800×480 resolution, 65K color
- Supports 5-point capacitive touch control via I2C interface, with interrupt support (for touch version only)
- Onboard CAN, RS485, I2C interface and TF card slot, integrates full-speed USB port
- Supports flexible clock, module power supply independent setting, and other control to realize low power consumption in different scenarios

Application Scenarios



Human-machine Interface

The Human-machine Interface (also known as the user interface) is the medium of interaction and information exchange between the system and the user, it realizes the transformation between the internal form of information and the form acceptable to human beings.

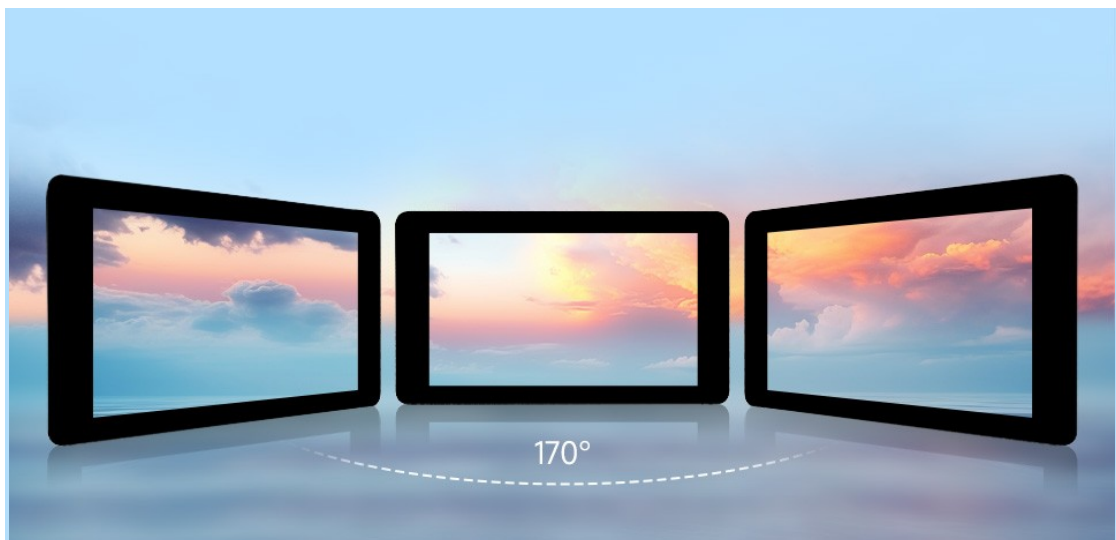


LVGL GUI Development

LVGL is a free, open-source graphics library that provides everything you need to create embedded GUI with the easy-to-use graphical elements, beautiful visual effects and low memory requirement.

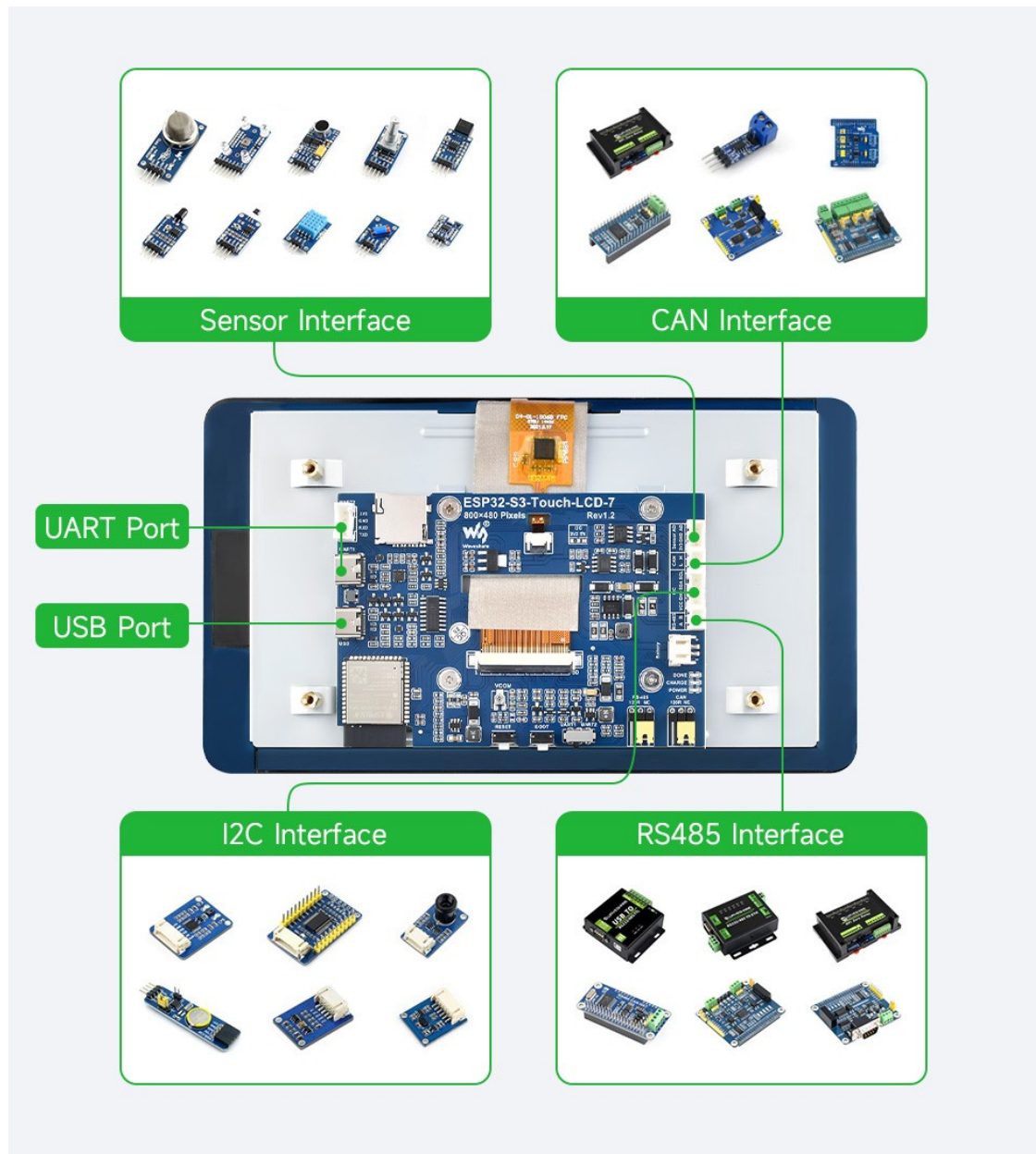
IPS Display Panel

Excellent display performance, 170° viewing angle

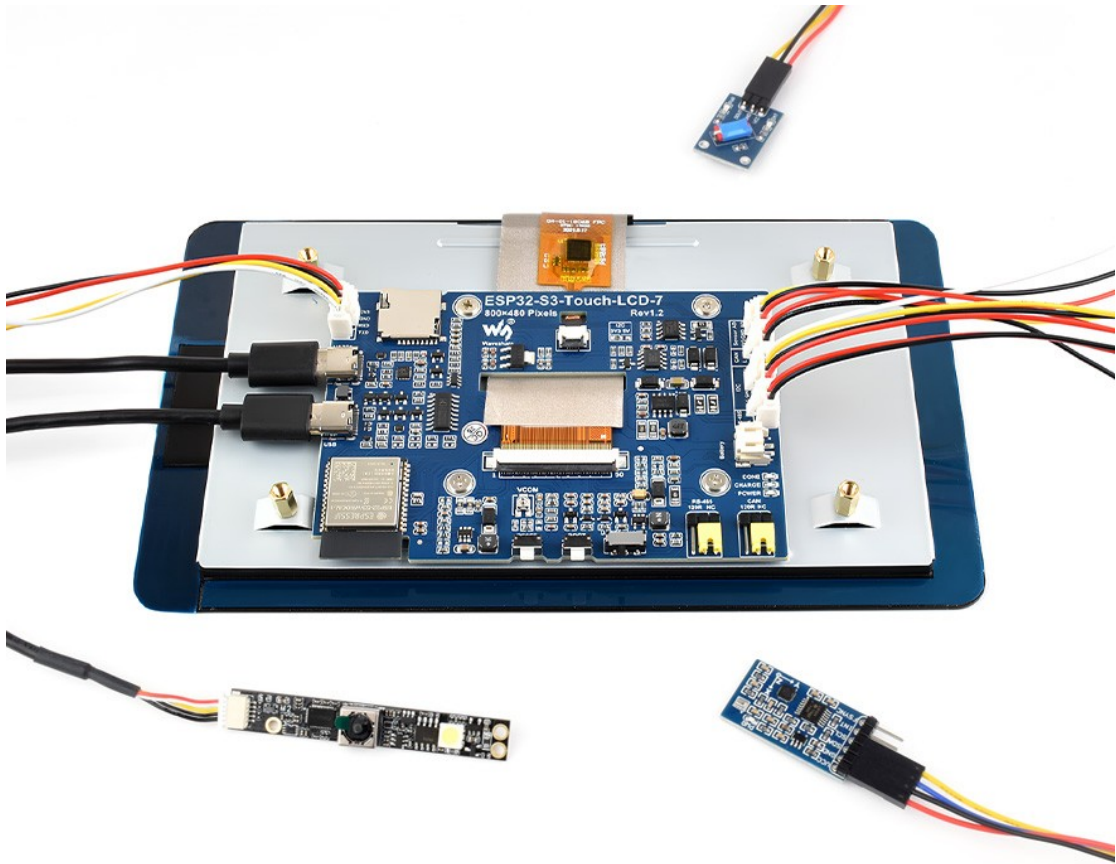


Supports multiple peripherals

Supports the expansion of multiple peripherals via Sensor, CAN, RS485, and I2C interfaces

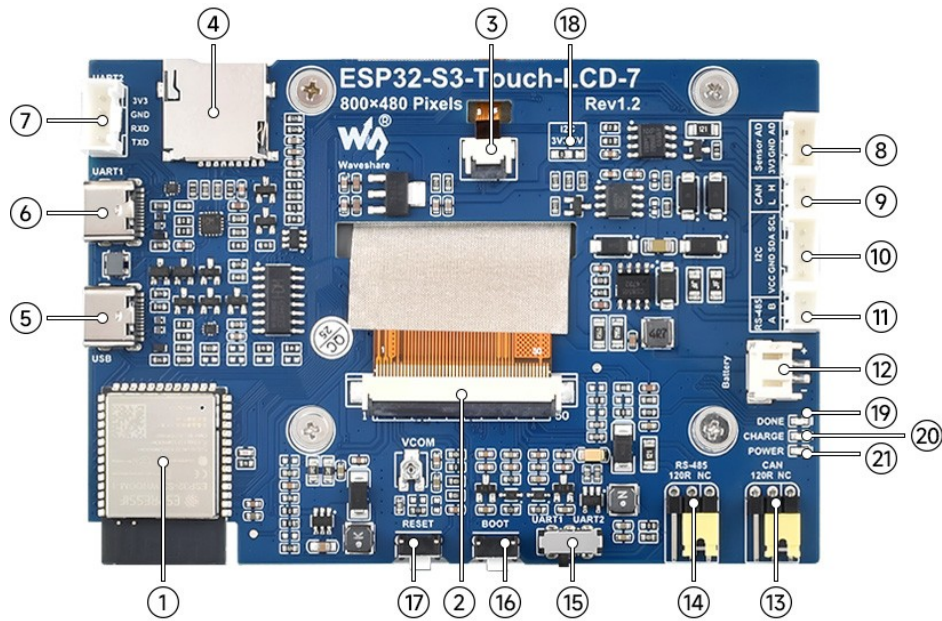


Application Example



for reference only, please refer to the Package Content for the detailed part list

What's On Board

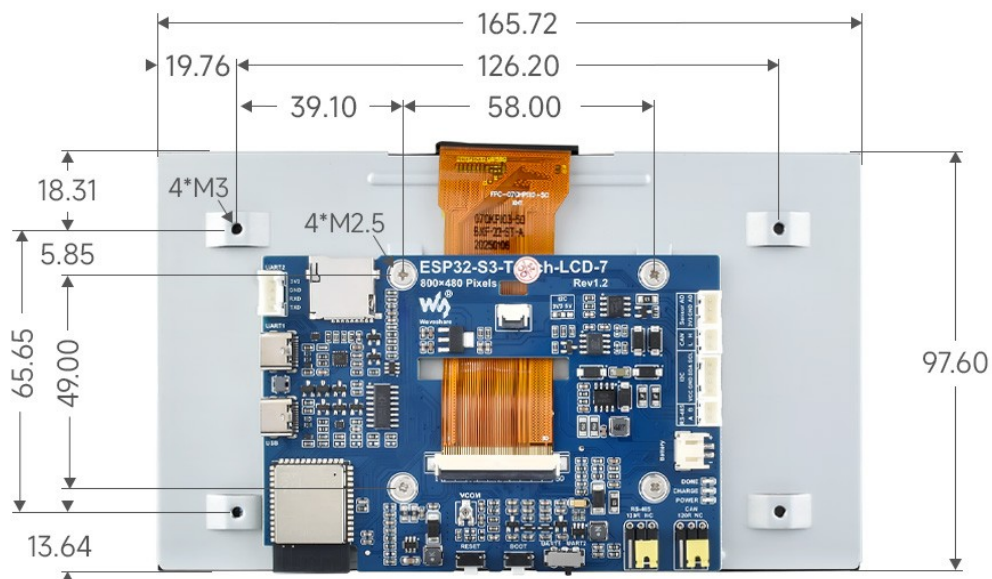


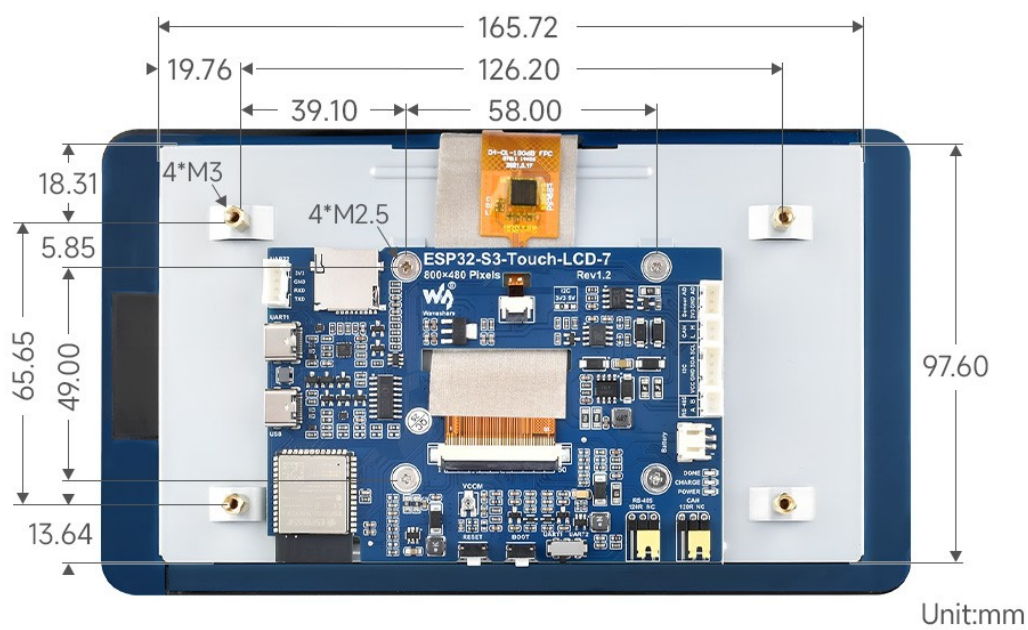
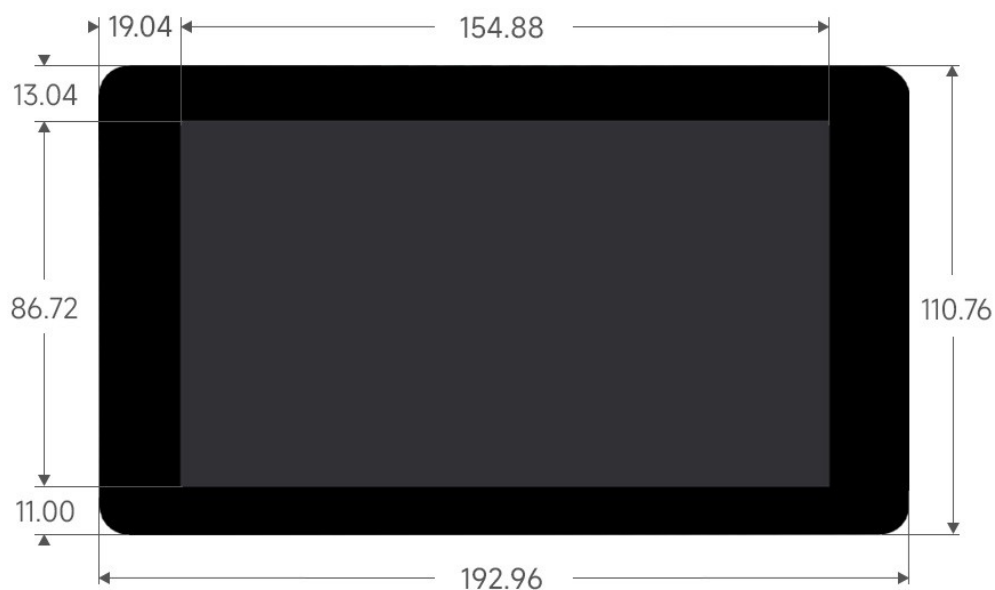
1. **ESP32-S3N16R8**
The SoC with WiFi and Bluetooth, up to 240MHz operating frequency, integrated 8MB PSRAM and 16MB Flash
2. **7inch display panel connector**
3. **Touch panel connector**
4. **TF card slot**
5. **USB Type-C port**
6. **UART1 Port**
USB to UART Type-C port
7. **UART2 connector**
UART1 and UART2 are the same UART, selected by switch
8. **Sensor header**
9. **CAN header**
10. **I2C header**
11. **RS485 header**
12. **RS485 header**
13. **3.7V single lithium battery PH2.0 header**
14. **CAN terminal resistor selection**
15. **RS485 terminal resistor selection**
16. **UART selection**
select UART1 or UART2
17. **BOOT button**
Press and hold while powering on for program burning
18. **RESET button**
19. **I2C level selection**
3.3V / 5V
20. **DONE**
Lithium battery charging completed indicator

Lithium battery charging indicator

Power supply indicator

outline dimensions





Unit:mm

