AIO-CM4-101

User Manual

Release 1.0
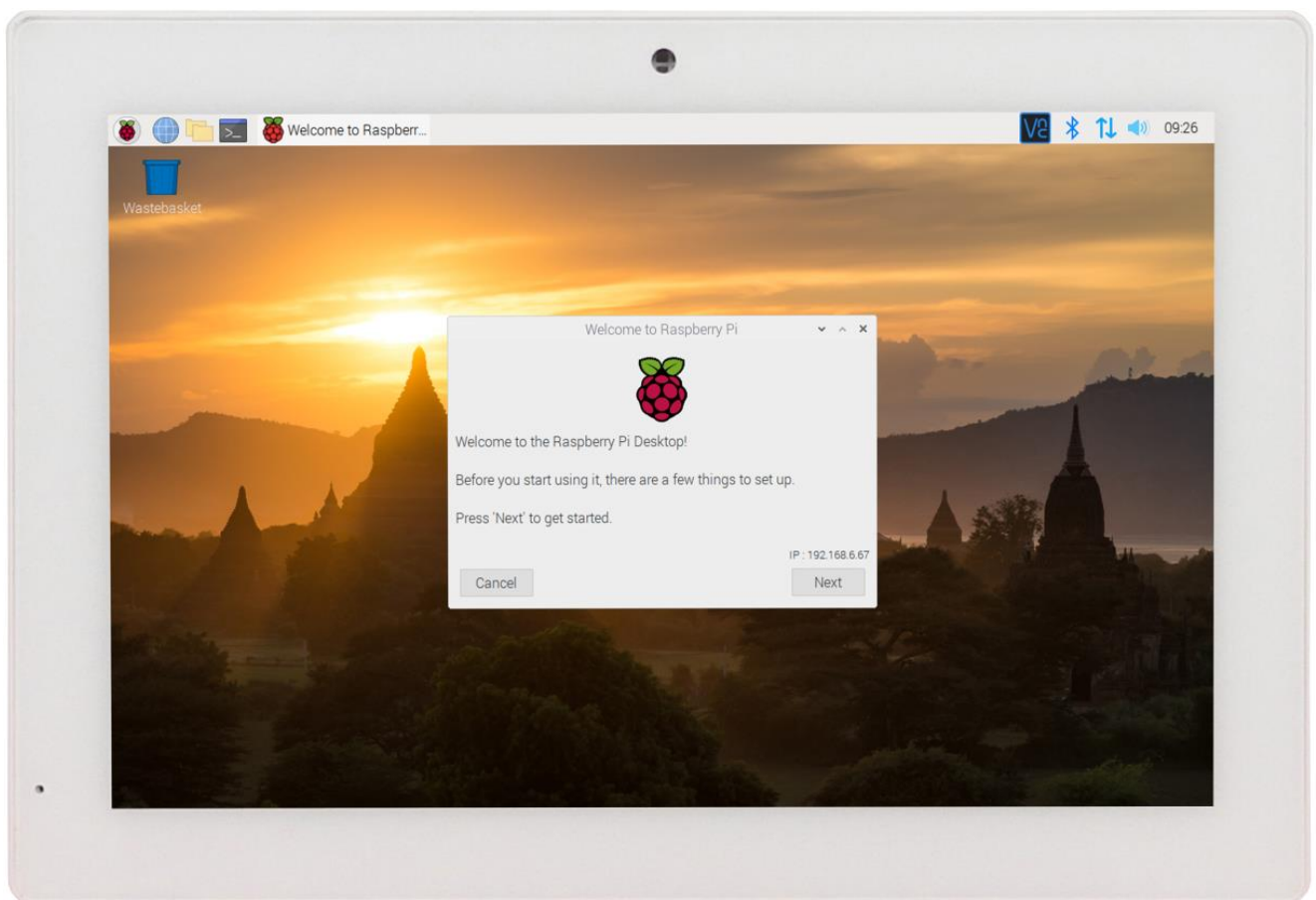
Chipsee Products Naming Rules

CS12800RA4101A-C111	
CS	**Chipsee Product Abbreviations**
12	**Horizontal Resolution** **80** Means 800 Pixel **10** Means 1024 Pixel **12** Means 1280 Pixel **14** Means 1440 Pixel **19** Means 1920 Pixel

800	**Vertical Resolution** **480** Means 480 Pixel **600** Means 600 Pixel **768** Means 768 Pixel **800** Means 800 Pixel **900** Means 900 Pixel **102** Means 1024 Pixel **108** Means 1080 Pixel
RA4	**Based on Raspberry Pi CM4**
101	**LCD Dimension** **050** Means 5.0 Inch **070** Means 7.0 Inch **080** Means 8.0 Inch **097** Means 9.7 Inch **101** Means 10.1 Inch **104** Means 10.4 Inch **120** Means 12.0 Inch **150** Means 15.0 Inch **170** Means 17.0 Inch **190** Means 19.0 Inch **215** Means 21.5 Inch
A	**Means Embedded PC or Panel PC** **E** Means Embedded PC without Case **P** Means Panel PC with Case **A** Means All-In-One Computer with Plastic Case
C	**Means Touch Type** **R** Means Resistive Touch **C** Means Capacitive Touch
1	**Means LCD Brightness** **1** Means Common Brightness **2** Means High Brightness
1	**PCB Version** Baseboard PCB Version Number

1	**PCB Version** CM4 Version Number

Hardware Features

Key Features:	
CPU Module	Raspberry Pi CM4; Quad Cortex-A72 at 1.5GHz
Storage	1 TF card slot designed for storage expansion
Display	10.1 inch IPS LCD, 1280* 800 Pixel Resolution, brightness: 350nit
Touch	Ten-Point Capacitive Touch with 1.0mm Armored Glass
USB	2 x USB 2.0 Host connector, 1 mini-USB OTG connector
LAN	1 Channel Giga LAN
Audio	Mic input on the front panel, 2W internal stereo speaker, 3.5mm audio In/Out connector
Buzzer	Internal Buzzer driven by GPIO
RTC	High accuracy internal RTC (keep track of time one week after power off)
RS232	2 Channels by default
RS485	1 Channel by default, 2 Channels at most. The RS485 circuit automatically controls the Input and Output direction (no need for software control)
GPIO/Wiegand	Two 5V Logic GPIO Outputs, can be used as Wiegand signal

Relay	One relay with "Normally Connected" and "Normally Open" Output
WiFi/BT	WiFi/BT module comes with the CM4
ZIGBEE	Internal Zigbee supported, NOT mounted by default
4G/LTE	Internal 4G/LTE module supported, NOT mounted by default
Camera	Camera on the front panel, NOT mounted by default
Power Input	9V~36V DC
Current @ 12V	500 mA max
Power Consumption	6W Typical
Working Temperature	0°C to +50°C
OS	Debian, Ubuntu
Dimension	260.54*178.54*26.9 mm
Weight	620g
Plastic Case Color	Black, White
Certification	CE, ROHS

CS12800RA4101A-

C111
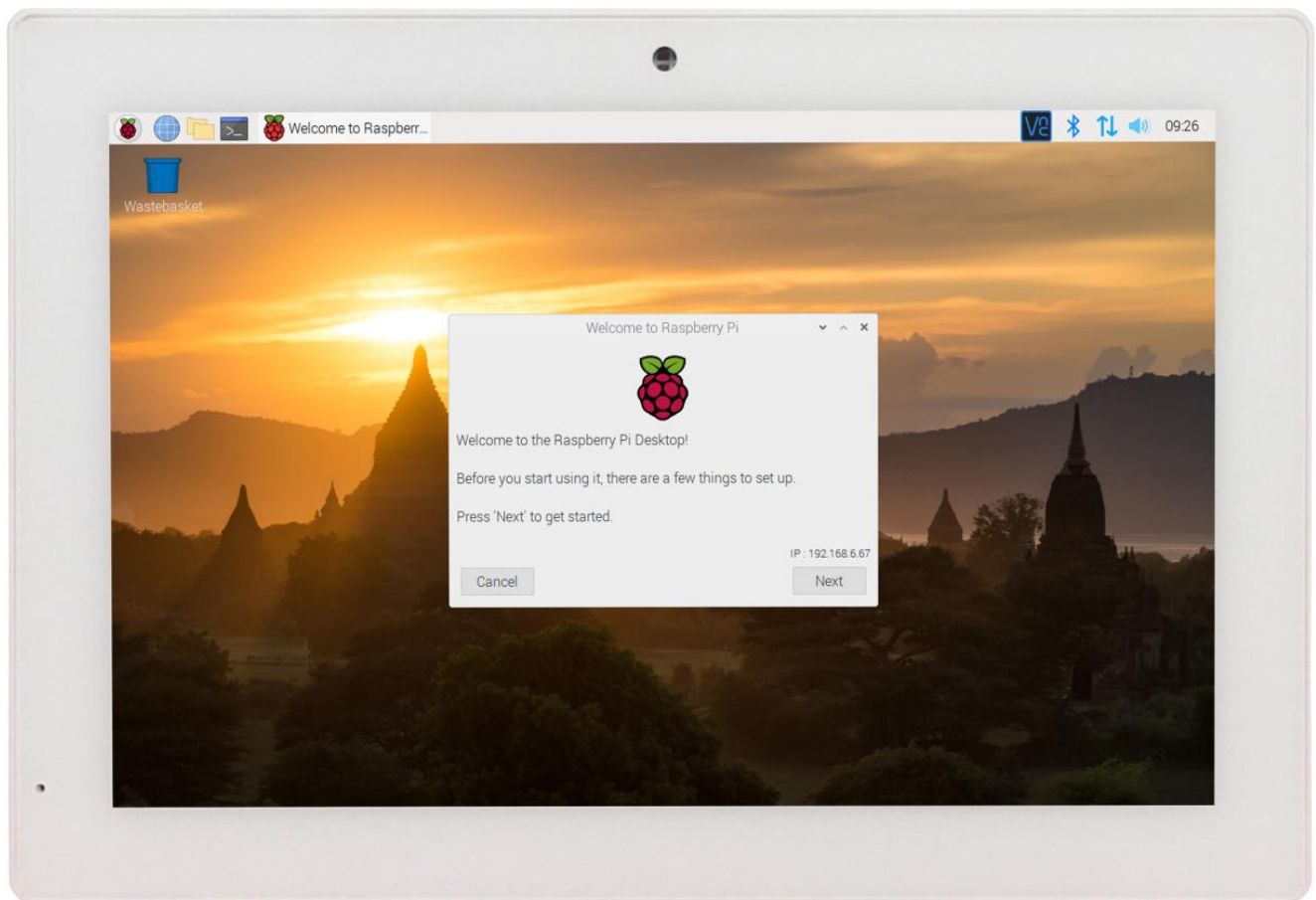
Figure 1: Front View (Debian)

Figure 2: Back View

Audio In/Out   SIM Card   LAN   USB HOST   Power   RS232+RS485+Relay

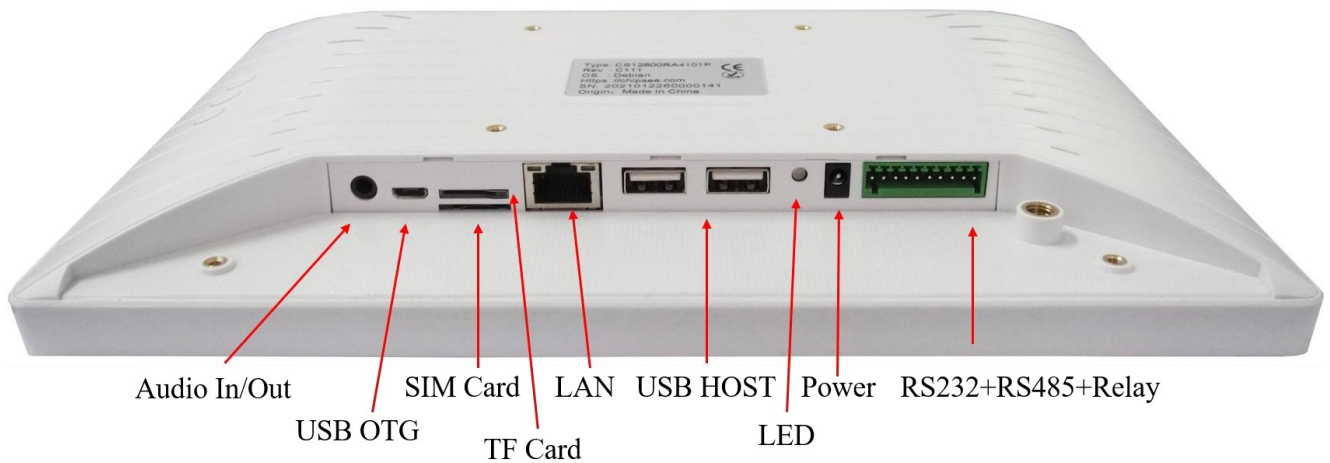USB OTG   TF Card   LED

Figure 3: Side View with available connectors

Power Input Connector

The product CS12800RA4101A uses a wide-range power input DC

9~36V. The total power consumption is typically about 6W. The Power Input connector is a 4.0/1.7mm DC connector, as shown in Figure 3. For a proper DC power adapter refer to Figure 4.
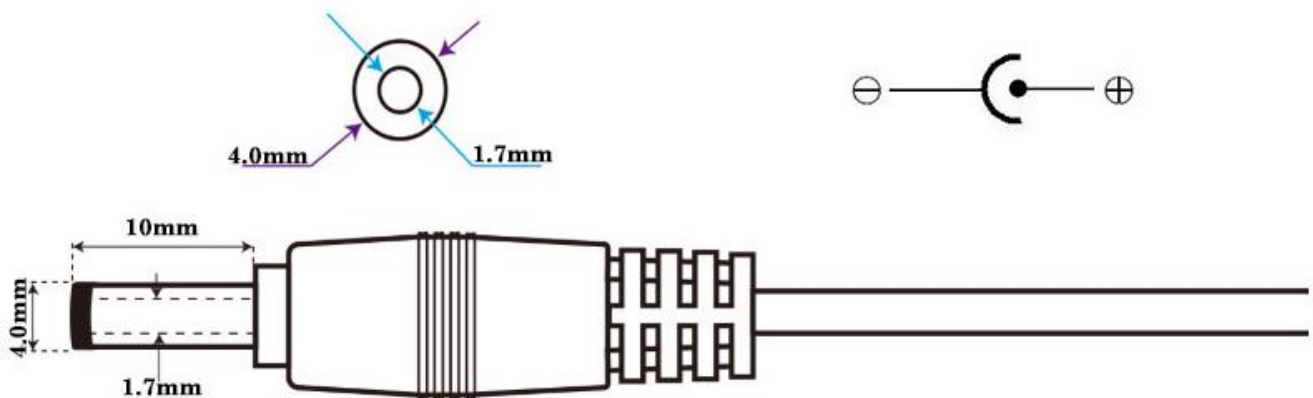

Figure 4: Power Adapter

Status LED

This product has an LED status indicator on the backside, as Figure 3 shows. The LED turns GREEN when the device is turned on and flashes YELLOW when the CPU is working.

USB HOST and USB OTG

This product has a two-channel USB host and a one-channel USB OTG connector, as Figure 3 shows. The USB host is used to connect the USB disk or USB mouse, keyboard, and so on.
The USB OTG is only used to download software to the Raspberry Pi CM4 eMMC.
The USB HOST will be automatically disabled when the USB OTG is connected.

LAN Connector

This product also features a Giga LAN connector, as Figure 3 shows.

TF Card and SIM Card

There are a TF card slot (upper) and a SIM card slot (lower), as shown in Figure 5.
The SIM card slot is only used when the 4G/LTE module is mounted.

Figure 5: TF card slot, SIM card slot and RS232+RS485+Relay connector

Audio In/Out Connector

The product features audio In/Out connector, as Figure 3 shows.

ZIGBEE

And on-board Zigbee. The Zigbee controller is the TI CC2531 module supported on the Raspberry Pi forum.

RS232+RS485+Relay Connector

The RS485+RS232+Relay connector is a 10-pin 2.5mm connector, as Figure 5 shows. As for the definition of every pin, please refer to Table 2.

Table 2

RS232 / RS485 Pin Definition:		
Pin Number	**Definition**	**Description**
Pin 1	GND	System Ground
Pin 2	RS232_0_RXD	CPU UART0, RS232 RXD signal
Pin 3	RS232_0_TXD	CPU UART0, RS232 TXD signal
Pin 4	RS232_2_RXD	CPU UART2, RS232 RXD signal Can be set as RS485_2+(A).
Pin 5	RS232_2_TXD	CPU UART2, RS232 TXD signal Can be set as RS485_2-(B).
Pin 6	RS485_3+	CPU UART3, RS485 +(A) signal Can be set as GPIO Output.
Pin 7	RS485_3-	CPU UART3, RS485 −(B) signal Can be set as GPIO Output.
Pin 8	Relay NO	Relay Normally Open
Pin 9	Relay COM	Relay Common
Pin 10	Relay NC	Relay Normally Connected

ATTENTION:
(1) The RS232_2 can be set as the RS485 signal. If you need it to work as RS485, please contact us before shipping.
(2) The RS485_3 can be set as Two 5V logic GPIO Output, these two TPIO can be used as Wiegand signal. If you need them to work as GPIO, please contact us before shipping.
(3) RS485_3 automatically controls input/output direction. It doesn't need software control.

(4) The 120Ω resistor for the RS485 signal is NOT mounted by default.
(5) The Relay Max switching voltage is 125VAC or 60VDC. The maximum switching current is 1A. Rated load is 0.3A at 125VAC and 1A at 30VDC.

Camera and Mic Input

The product CS12800RA4101A has a camera on the front panel, as shown in Figure 6, that is not mounted by default.
This product also has an integrated microphone input on the front panel, also shown in Figure 6.
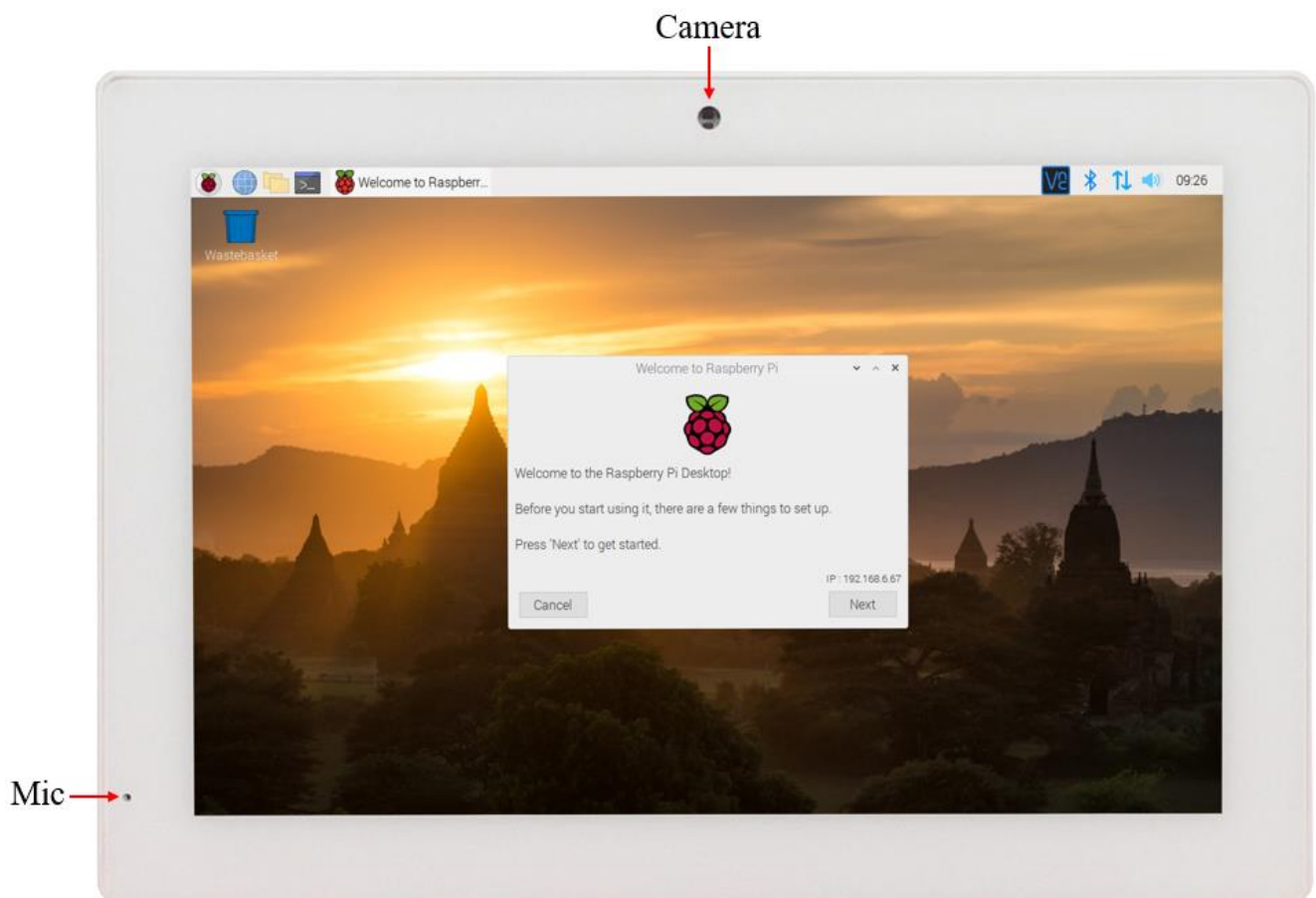

Figure 6: Camera and microphone input

Buttons

There are 3 buttons on the backside of the case that work as Audio output Volume+, Volume-, and boot mode selection, as Figure 7 shows. The product CS12800RA4101A boots from the internal eMMC by default. If you want it to boot from the USB OTG connector, please press the Boot Mode button BEFORE power-on, and release it 3 seconds after power-on.

Figure 7: Buttons

Dimensions

The dimensions of CS12800RA4101A-C111 are 260.54*178.54*26.9mm, as Figure 8~10 show.
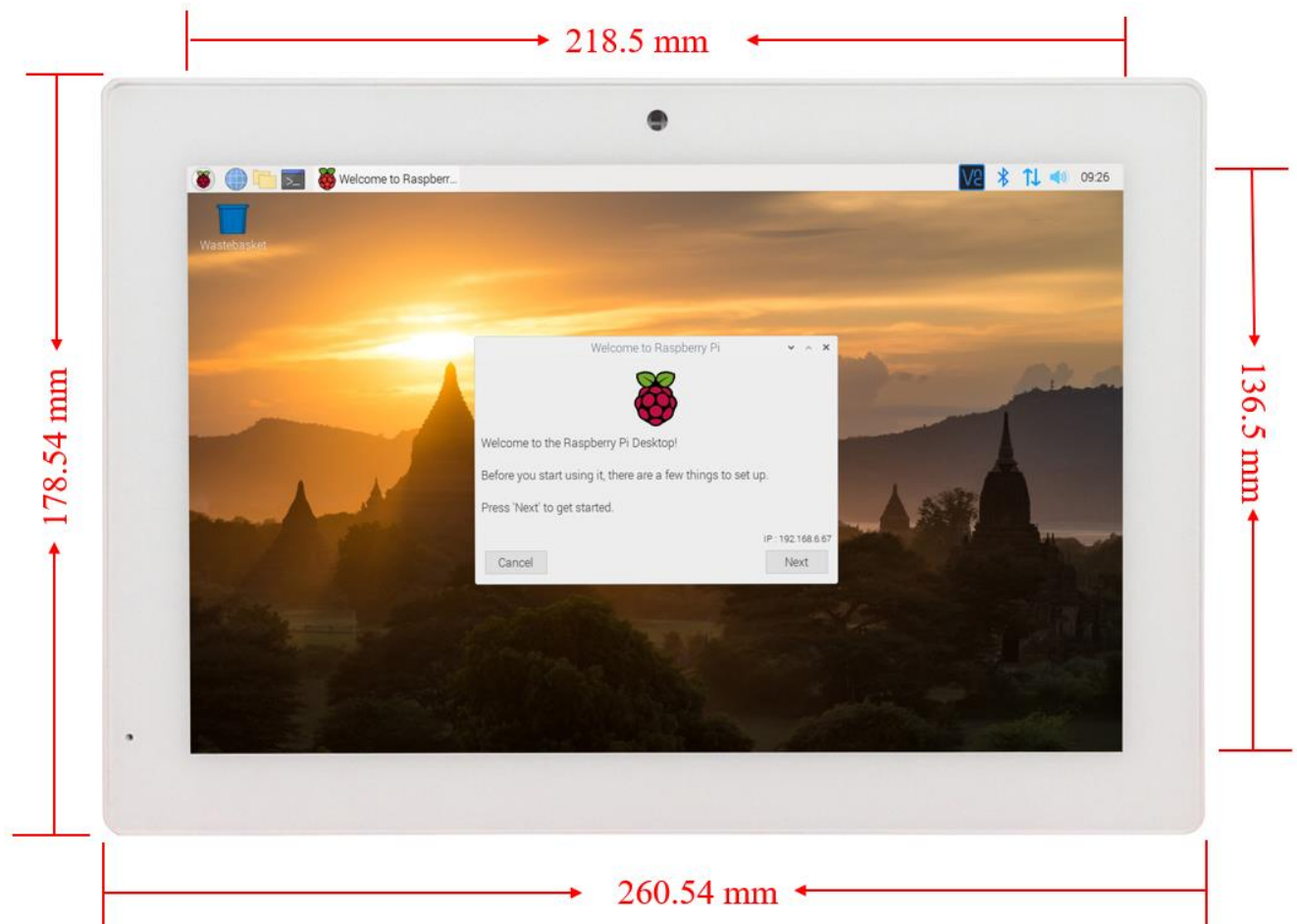The product CS12800RA4101A-C111 can be mounted by using 75*75mm VESA holes.
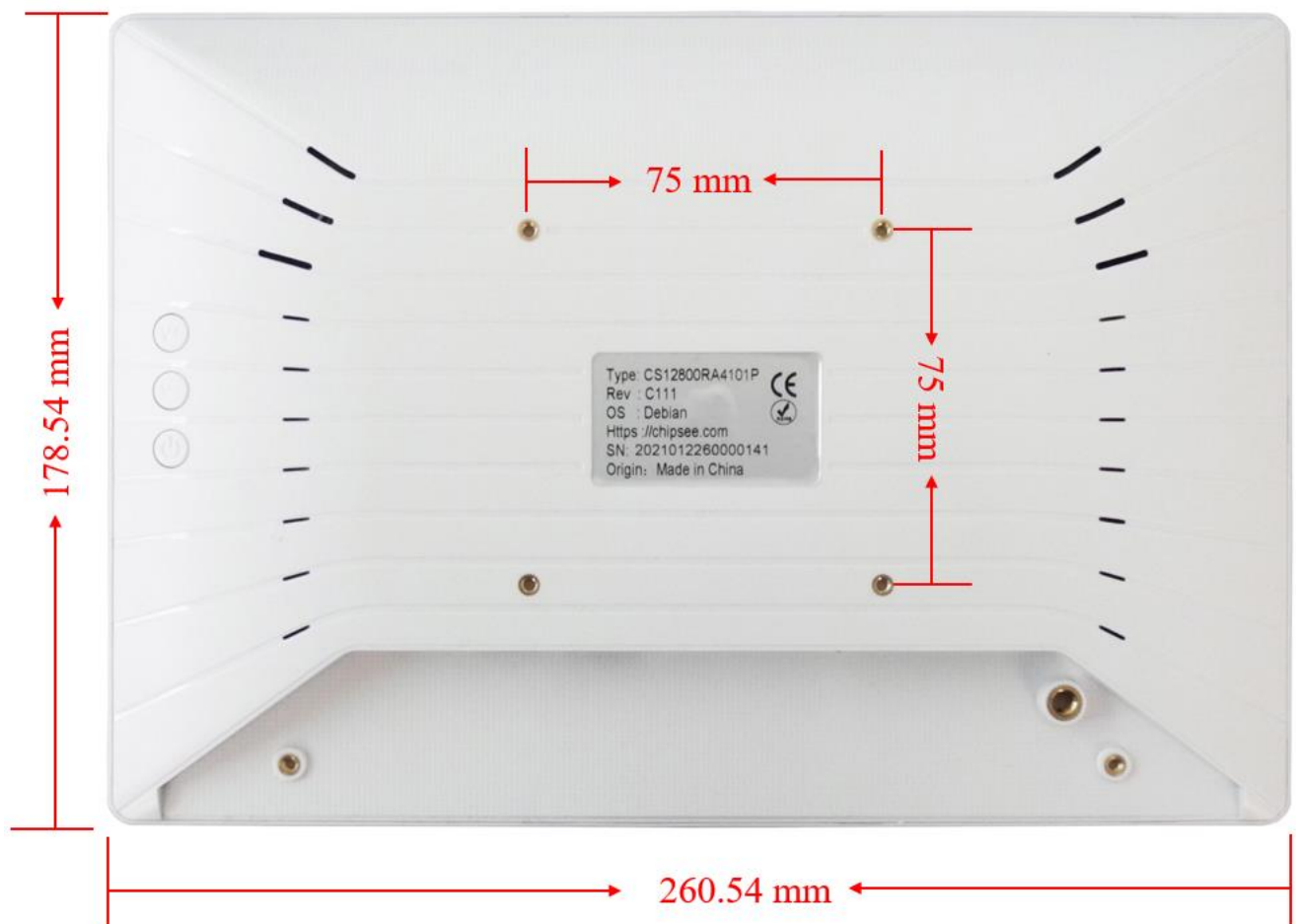
Figure 8: Front Panel Dimension

Figure 9: Backside Dimension

Figure 10: Side Dimension

Mounting

1. Metal stand, as shown in Figure 11, is shipped with the product:

Figure 11: Stand Mounting

2. VESA mounting is shown in Figure 12. Please note that the base stand is not included by default.

Figure 12: VESA Mounting

How to Get Support

Please feel free to contact us with any questions, queries or suggestions.

If your question is about technical support or troubleshooting for one of our products, we kindly ask you to first check our documentation for a possible solution.

If you cannot find the solution you are looking for then please write to service@chipsee.com providing all possible details.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Chipsee](#):
  [CS12800RA4101A-C111](#)