

# PPC-A9-215-C

## User Manual

## Release 2.0



# Chipsee Products Naming Rules

CS19108F215P-C111	
CS	Chipsee Product Abbreviate

<b>19</b>	<b>Horizontal Resolution</b> <b>80</b> Means 800 Pixel <b>10</b> Means 1024 Pixel <b>12</b> Means 1280 Pixel <b>14</b> Means 1440 Pixel <b>19</b> Means 1920 Pixel
<b>108</b>	<b>Vertical Resolution</b> <b>480</b> Means 480 Pixel <b>600</b> Means 600 Pixel <b>768</b> Means 768 Pixel <b>800</b> Means 800 Pixel <b>900</b> Means 900 Pixel <b>102</b> Means 1024 Pixel <b>108</b> Means 1080 Pixel
<b>F(T)</b>	<b>Product based on Freescale (TI) CPU</b>
<b>215</b>	<b>LCD Dimension</b> <b>050</b> Means 5.0 Inch <b>070</b> Means 7.0 Inch <b>080</b> Means 8.0 Inch <b>097</b> Means 9.7 Inch <b>101</b> Means 10.1 Inch <b>104</b> Means 10.4 Inch <b>120</b> Means 12.0 Inch <b>150</b> Means 15.0 Inch <b>170</b> Means 17.0 Inch <b>190</b> Means 19.0 Inch <b>215</b> Means 21.5 Inch
<b>P</b>	<b>Means Embedded PC or Panel PC</b> <b>E</b> Means Embedded PC without Case <b>P</b> Means Panel PC with Case
<b>C</b>	<b>Means Touch Type</b> <b>R</b> Means Resistive Touch <b>C</b> Means Capacitive Touch

<b>1</b>	<b>Means LCD Brightness</b> <b>1</b> Means Common Brightness <b>2</b> Means High Brightness
<b>1</b>	<b>PCB Version</b> Baseboard PCB Version Number
<b>1</b>	<b>PCB Version</b> SOM Module PCB Version Number

## Hardware Features

<b>Key Features:</b>	
<b>CPU</b>	iMX6Q, Quad-A9, 1GHz
<b>RAM</b>	2GB DDR3
<b>eMMC</b>	8GB
<b>Storage</b>	TF card, supports up to 32GB SDHC
<b>Display</b>	21.5 Inch LCD, 1920*1080 Pixel Resolution, 16:9
<b>Touch</b>	Ten-Point Capacitive Touch
<b>USB</b>	2 x USB 2.0 Host, 1 USB OTG
<b>LAN</b>	1 Channel 1000M LAN
<b>Audio</b>	3.5mm Audio In/Out Connector, 2W Speaker Internal
<b>Buzzer</b>	1
<b>RTC</b>	Yes
<b>RS232</b>	2 Channels
<b>RS485</b>	3 Channels *
<b>CAN</b>	2 Channels
<b>GPIO</b>	8 Channels

<b>WiFi/BT</b>	On Board WIFI/BT
<b>HDMI</b>	1 Channel
<b>SATA II</b>	1 Channel
<b>4G/LTE</b>	Optional
<b>Power Input</b>	15~36V DC
<b>Current @ 15V</b>	2000 mA max
<b>Power Consumption</b>	25W Typical
<b>Working Temperature</b>	-20°C to +70°C
<b>OS</b>	Android, Ubuntu, Linux
<b>Dimension</b>	530*322*45mm
<b>Weight</b>	6000g

\* This product has 5 channels of UART in total. The Bluetooth used one channel UART by default, the default setting is 2\*RS232+2\*RS485+Bluetooth. The UART can be changed between RS232 and RS485 easily. If you want different RS232 and RS485 settings, please contact us.

# CS19108F215P - C111



Figure 1 Top View (Android)

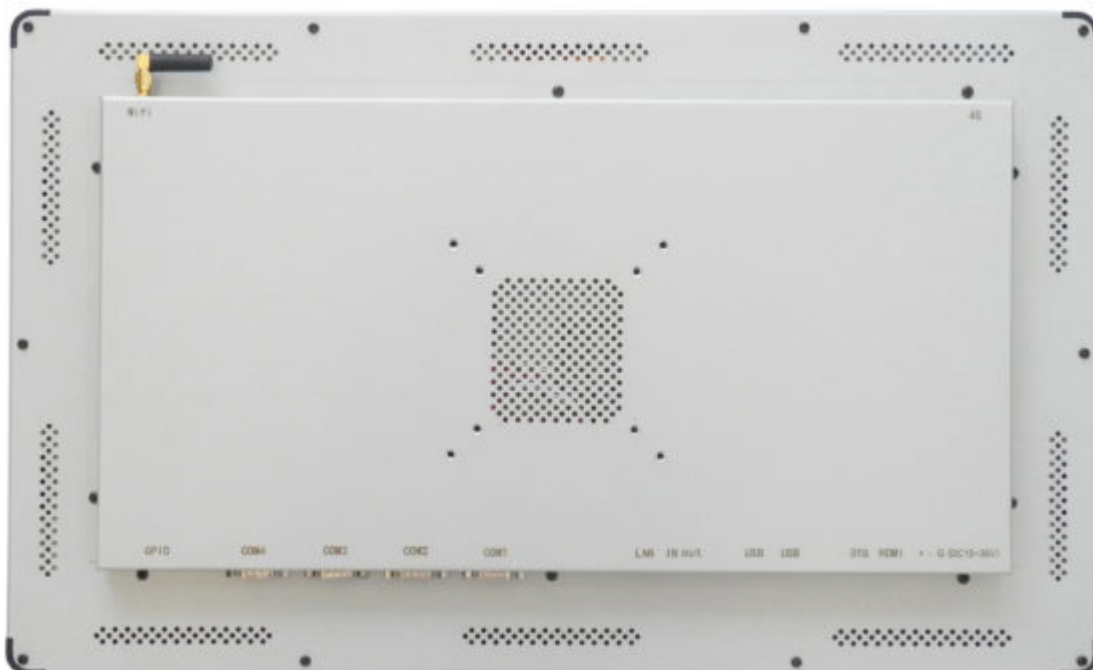


Figure 2 Back View

**Power Input Connector**

The product CS19108F215P-C111 uses a wide range power input: **DC 15~36V**. The total power consumption is about **25W** normally. The Power Input Connector is 3 Pin 3.81mm Screw Terminal Connector as Figure 3 shows. The Character “+” means power **Positive** input, The Character “-” means power **Negative** input. The Character “**G**” means system Ground. Table 1 has detailed descriptions about the connector definition.



Figure 3 Power Input Connector

Table 1

Power Input Pin Definition:		
Pin Number	Definition	Description
Pin 1	Positive Input	Connect to DC Power <b>Positive Terminal</b>
Pin 2	Negative Input	Connect to DC Power <b>Negative Terminal</b>
Pin 3	Ground	Connect to <b>Power System Ground</b>

**BE ATTENTION:**

*The system ground “**G**” has been connected to power negative “-” on board.*

## Capacitive Touch

The product CS19108F215P-C111 uses ten-point capacitive touch.

**ATTENTION:**

Capacitive touch is very sensitive to power noise. Ripple voltage/current from the power adapter will cause the LCD ripples, and will also cause the capacitive touch malfunction: If you use the APK Multi-Touch under Android to test, you can find the touch point float. There are several ways to solve this problem:

1) Use a high quality power adapter. Or use battery to provide the power like cell phone or tablet PC.

2) If user power adapter can't be good enough, there's another effective method to solve this problem: Make sure the CS19108F215P-C111 power input connector **Pin 3 really connect to user "Power System Ground"**. This method can eliminate the problem totally. User can also use another method to test this problem: touch the GND of CS19108F215P-C111 by one hand, the other hand operates on the capacitive touch screen. In this case, user's body acts as the Power System Ground.

## DB9 Connector

The product CS19108F215P-C111 has 4\*DB9 connectors configured as RS232 by default. as Figure 5 shows .COM3/COM4 can be customized to RS485. If you need any other setting different to the default setting, please [contact us](#).



Figure 4 DB9 Connector

## USB HOST Connector

The product CS19108F215P-C111 has two USB connectors as Figure 5 shows. These two USB can provide 500mA current each.



Figure 5 USB HOST Connector

## USB OTG Connector

The product CS19108F215P-C111 has one USB OTG connector as Figure 6 shows. It works as slave by default. User can connect it to host PC by this connector.



Figure 6 USB OTG Connector

## LAN Connector

The product CS19108F215P-C111 has one channel 1000Mbit Ethernet Connector, as Figure 7 shows.



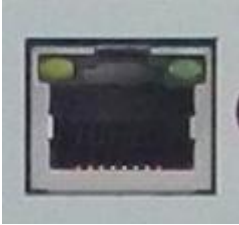


Figure 7 LAN Connector

## Audio Connector

The product CS19108F215P-C111 has one Audio Input (“Line-in”) and one Audio (“Line-out”) output, as Figure 10 shows. And the product has an internal 2W speaker.

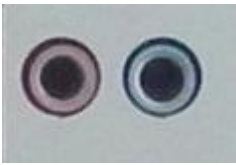


Figure 8 Audio Connector

## WiFi+BT

The product CS19108F215P-C111 has one WiFi+BT. It uses Realtech RTL8723 which integrates WiFi and BT. There is a connector on the backside case which can connect external WiFi/BT Antenna, as Figure 11 shows.

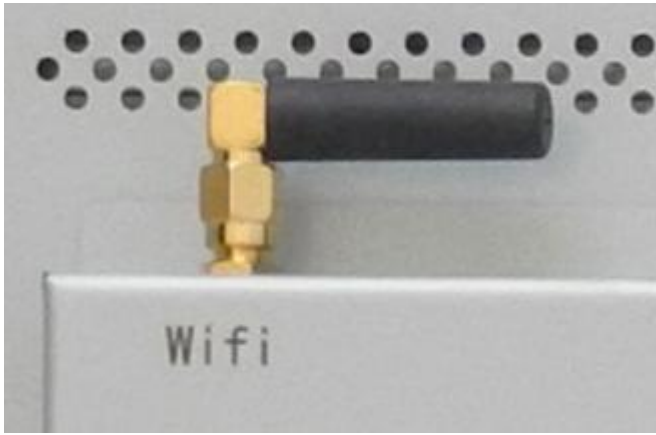


Figure 9 WiFi+BT Antenna

## HDMI Connector

The product CS19108F215P-C111 has one HDMI connector as Figure 12 shows. The HDMI output resolution can be configured by software.



Figure 10 HDMI Connector

## Boot Switch

The product CS19108F215P-C111 has a boot switch which can be used to change boot sequence, as Figure 13 shows. It is defined as SW2 on the PCB. As for the details of the boot switch, please refer to Table 3.

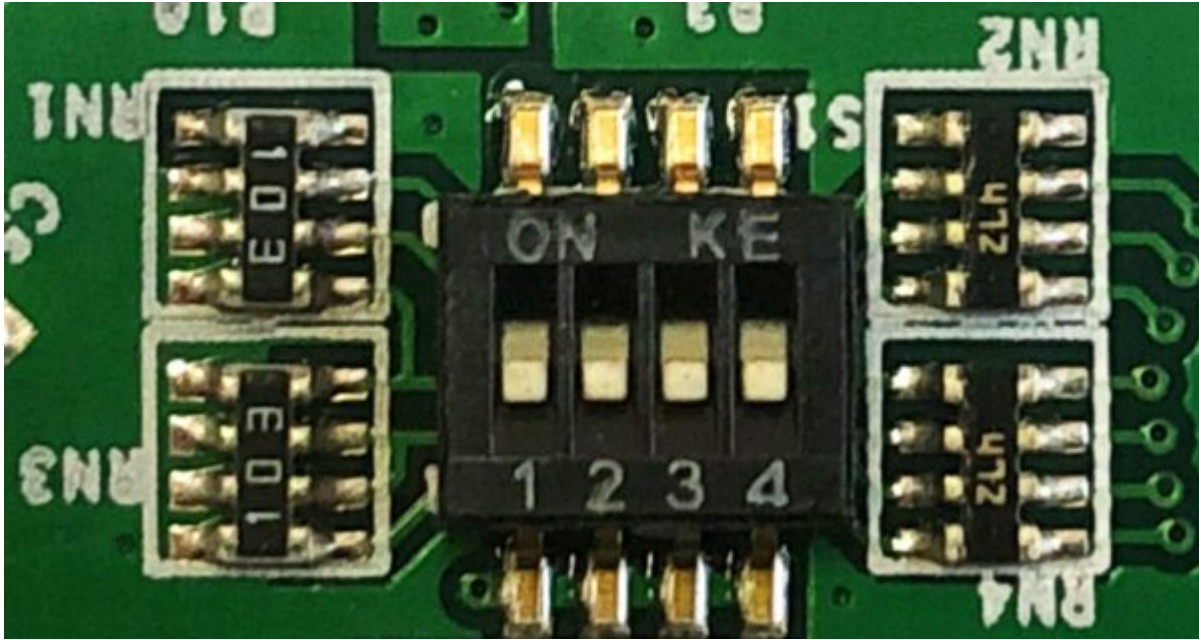


Figure 11 Boot Switch

Table 3

Boot Config Select:				
Mode	1	2	3	4
TF Card	1	0	0	0
eMMC	1	1	0	1
Download	0	1	1	0

## Expansion Connector

The product CS19108F215P-C111 has one Expansion Connector, as Figure 12 shows. This connector is labelled as P28 on the PCB, and it has connected to CPU GPIO/I2C signals. As for the definition of every Pin, please refer to Table 4.



Figure 12 Expansion Connector

Table 4

GPIO	
Pin	
Pin 10	VCC_ISO
Pin 9	GND_ISO
Pin 8	OUTPUT1
Pin 7	OUTPUT2
Pin 6	OUTPUT3
Pin 5	OUTPUT4
Pin 4	INPUT1
Pin 3	INPUT2
Pin 2	INPUT3
Pin 1	INPUT4

**ATTENTION:**

*All signals are optocoupler isolated. VCC\_ISO supports 5V ~ 24V input.*

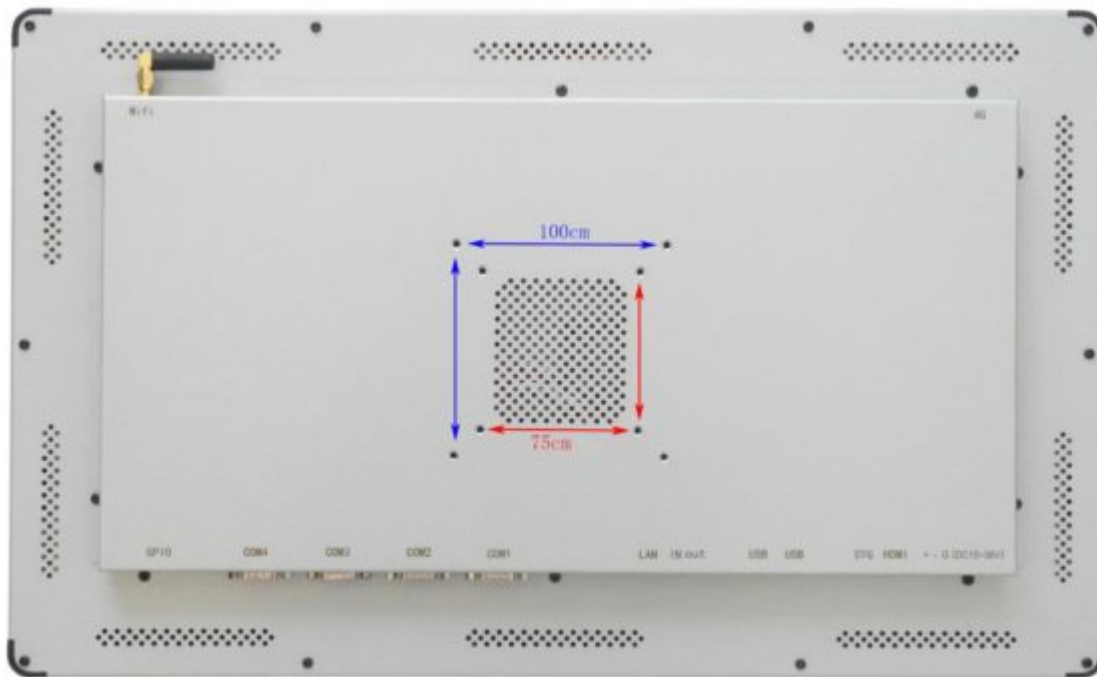
# Measurements and Mounting

## Measurements

The measurement of CS19108F215P-C111 is 537\*328\*55mm.

## Mounting Method

This product CS19108F215P-C111 can be mounted using the mounting set, as Figure 16 shows. Please make sure the display is not exposed to high pressure when mounting into an enclosure.



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Figure 13 Mounting Method

## 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 [contact@chipsee.com](mailto:contact@chipsee.com) providing all possible details.

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