

PR588_EVB High-Performance Android LCD Module

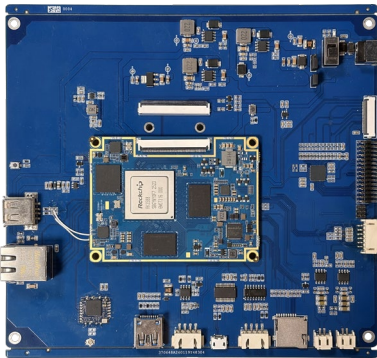
PR588_EVB is an industrial-grade Android reference module based on the Rockchip RK3588 ARM processor. using 8nm advanced manufacturing process. It has an 8-core 64-bit architecture, offering high performance and low power consumption. Video decoding supports 8K@60fps/4K@120fps, with 6TOPS computing power.

In terms of hardware, this product offers the option of capacitive touch control, TFT color LCD screen, support for 10.1-inch LVDS LCD screen, optional 7-inch MIPI LCD screen, 15-inch LVDS LCD screen, and memory options of 4/8GB or 32/64GB eMMC.

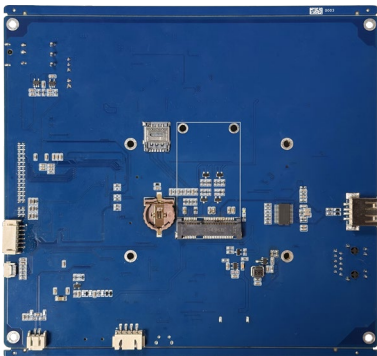
Application Area

- ✓ Smart Cockpit
- ✓ Smart Whiteboard
- ✓ Robotic Vacuum Cleaner
- ✓ Power sector
- ✓ Energy & Chemical

Front View



Back View



About PROCULUS

As a custom LCM manufacturer that is focusing on all-in-one TFT LCDs, we offer LCM solutions based on your requirements.

Our solutions include UART, Android and HDMI. They simplify GUI development and are cost-effective.

Product Feature

- RK3588
- RAM 4GB
- ROM 32GB
- Support Android、Linux
- WIFI Support 2.4G/5G frequency band
- Bluetooth 4.2
- Ethernet Supports 10m/100m/1000m
- 4G support (optional)

Version Info

Ver.	Date	Descriptions
V1.0	2026/07/02	First release

For more detailed information about Proculus Technologies LCD module solutions, visit www.proculustech.com

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Detailed Parameters

Core Performance

CPU	Cortex-A76*4,Cortex-A55*4
RAM	4G / 8G
eMMC	32G / 64G
GPU	ARM Mali-G610 MC4
NPU	RKNN 6 Tops

System Version

Android	Support Android 14
Linux	Support Debian12 / Ubuntu2204

Expansion Device

MIC	Audio input interface
Speaker	Audio output interface
Buzzer	-
GPIO	-
IIC	-
TF Card	Support
HDMI OUT	-
USB Camera	Support

Display Performance

Display Color	16.7M (16777216) colors, 24-bit color 8R8G8B
Display Size	7 inches, 10.1 inches, 15 inches are available.
View Area Size	-
Resolution	1024x600, 1280x800, 1024x768 Correspond to the sizes of LCD screens
Backlight Mode	LED
Luminance	500

Voltage Current

Parameter	Condition	Min	Typ	Max	Unit
Working Voltage	-	12	12	24	V
Working Current	-	-	400	-	mA
Power	12V 2A DC (Recommended)				

Visual Angle Parameter

Visual Angle (CR≥10)	Angle	Angle Parameter	Min	Typ	Max	Unit
	θL	Φ=180° (9 o'clock)	-	-	-	Deg
	θR	Φ=0° (3 o'clock)	-	-	-	
	θT	Φ=90° (12 o'clock)	-	-	-	
	θB	Φ=270° (6 o'clock)	-	-	-	

Reliability Testing

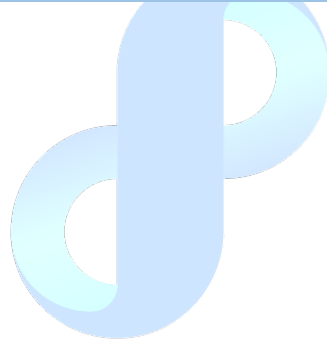
Parameter	Condition	Min	Typ	Max	Unit
Working Temperature	60%RH at 12V voltage	-20	25	70	°C
Storage Temperature	-	-30	25	85	°C
Working Humidity	25°C	10%	60%	90%	RH
Protection Paint	-	-	无	-	-

Serial Port Parameter

Parameter	Condition	Min	Typ	Max	Unit
Baud Rate	Standard	1200	9600	115200	bps
Serial Mode	-	User Interface	-		

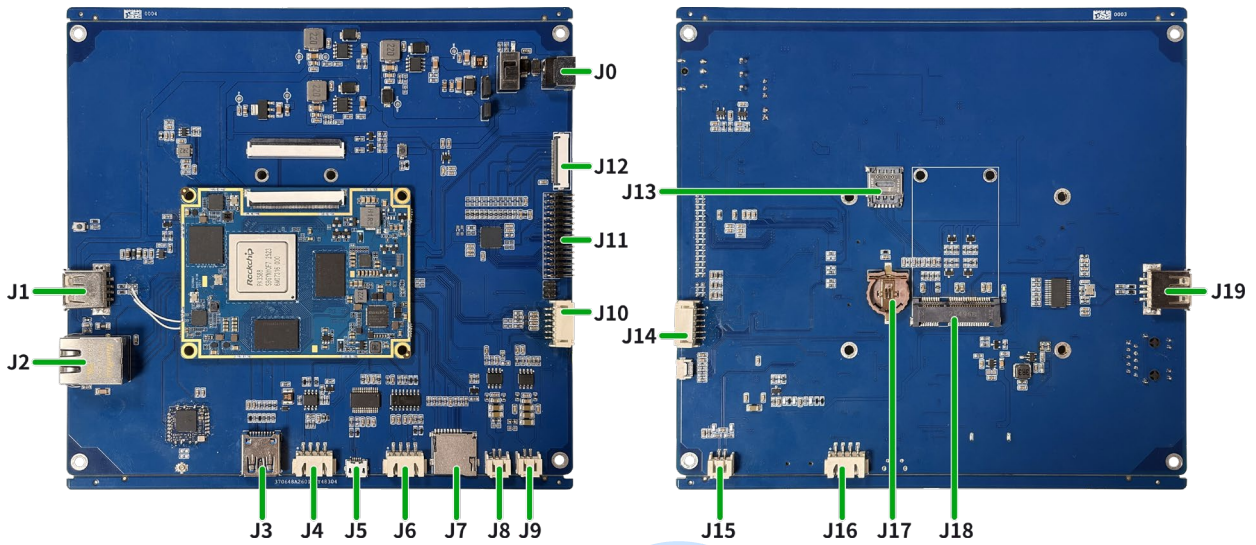
Interface Parameter

Interface	Parameter	Interface	Parameter
USB	USB 3.0 x1, USB 2.0 x2, USB OTGx1	WIFI	Support 802.11b/g/n Wi-Fi 2.4G/5G
Bluetooth	Bluetooth 4.2	4G	4G /GPS (Optional)
Ethernet	Support 10m/100m/1000m Ethernet	Gyroscope	-
NFC	-	Light sensor	-
M.2	-	Infrared receiver	-



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Interface Specification

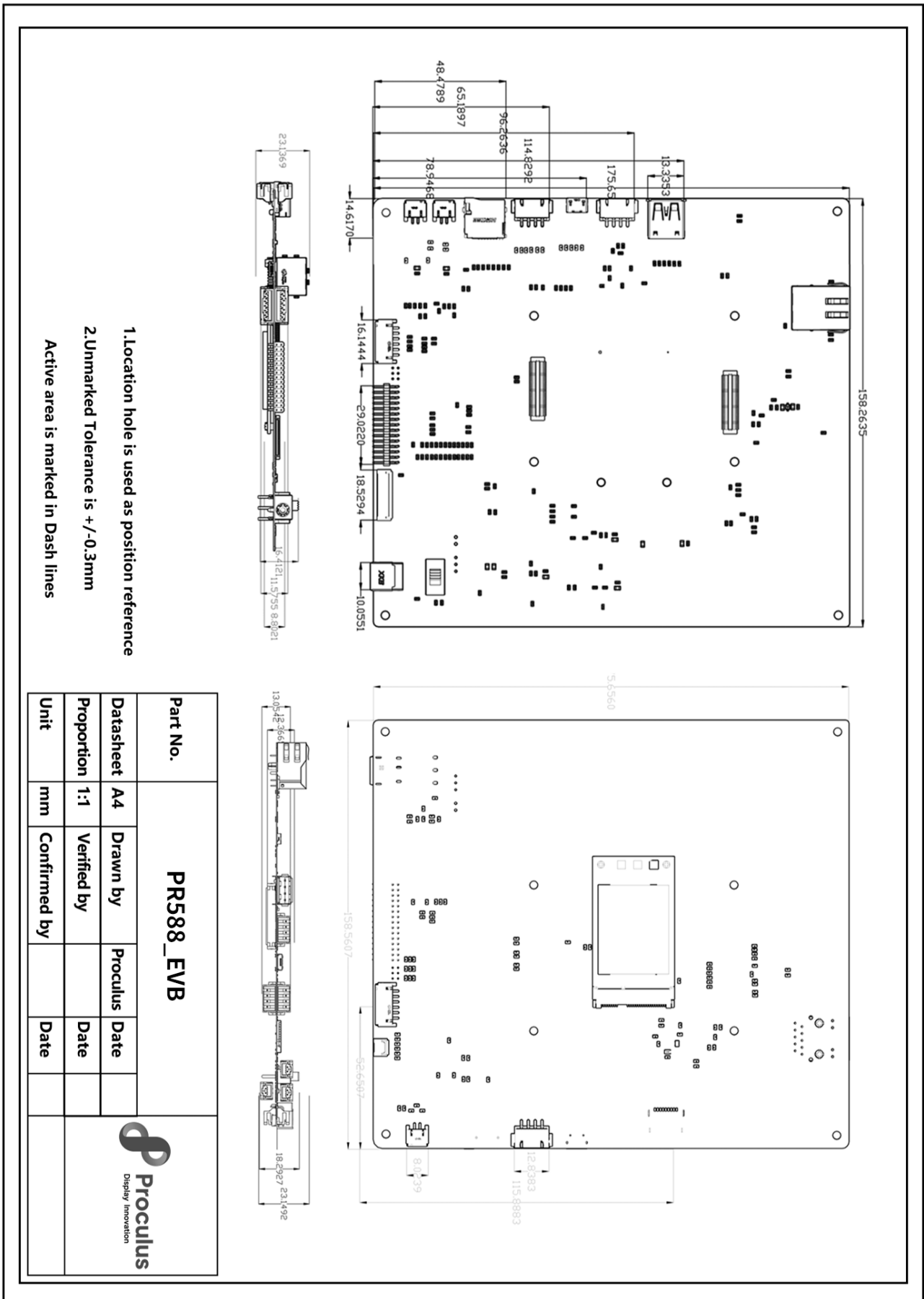


Num.	Interface	Description
J0	Power	12V/2A power supply
J1	USB_HOST1	Support USB Peripherals/Support dual USB parallel use
J2	RJ45 interface	Support 10M/100M/1000M network
J3	USB 3.0 HOST	Support USB Peripherals/Support dual USB parallel use
J4	RS485	ttyS6. Pin definition: 5V, RXD, TXD, GND
J5	USB_Micro	OTG /App debugging/ Firmware upgrade interface
J6	UART1	Device name: ttyS1. RS232/TTL Pin definition: 3.3V, RXD, TXD, GND
J7	TF card	Storage expansion
J8	SPK_L	Left channel audio output interface
J9	SPK_R	Right channel audio output interface
J10	Touch interface	Touchscreen interface
J11	LCD screen interface	LCD screen interface
J12	MIPI interface	7-inch MIPI LCD screen interface
J13	SIM card	Nano-SIM supported (Optional)
J14	backlight interface	LCD screen backlight interface
J15	MIC	Audio input interface

Num.	Interface	Description
J16	UART2	Device name: ttyS2. RS232/TTL Pin definition: 5V, RXD, TXD, GND
J17	RTC	Supply system RTC
J18	MINI PCIE 4G	4G LTE Module/GPS (Optional)
J19	USB_HOST2	Support USB Peripherals/Support dual USB parallel use

Note: The interface sequence is sorted from top to bottom and from left to right.

Product size drawing (product without shell)



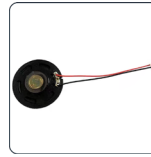
Support peripheral accessories



GPS function

Used for GPS positioning, map positioning, real-time location query

Support status:



Loudspeaker

Used to output audio and play music

Support status:



4G function

Support 4g Internet access function, the following modules can be selected:

1-EC20: Signal is more stable, CAT4

2- EC25: CAT4

Support status:



HDMI Output

Used to output screen display

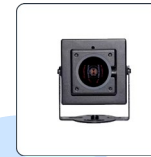
Supported status:



Extended storage

Expand storage space and export data for storing important data that can be migrated

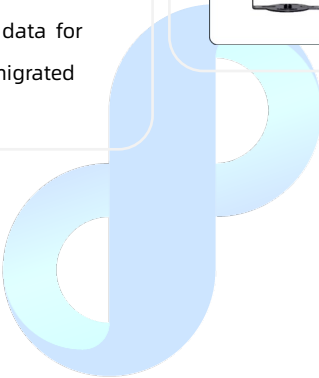
Supported status:



USB HD camera

Support 720P/1080P HD camera picture

Support status:


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Service

Customers enjoy 1-year free warranty and lifetime maintenance guarantee for the purchase of our products, and users can also extend the warranty period by paying.

1. one year warranty: from the date of purchase enjoy 1 year free maintenance service.
2. lifetime maintenance: beyond the warranty period of the product, we provide paid maintenance services.
3. warranty scope: due to human use factors or force majeure caused by the damage is not within the scope of warranty; The CPU is not covered by warranty.

In addition, all the purchase of our company's products will be recorded, after-sales service personnel will actively and regularly ask you about the use of the industrial control board you have purchased, give suggestions on your product maintenance, or reply to possible problems in a timely manner and answer.

The quality determination criteria for products leaving the factory are as follows:

1. Appearance of the LCD screen:

The standards for dust, black spots and white spots on the LCD screen are that there should be no more than 3 spots inside the screen, the size should not exceed 0.35mm, and the scratches should not exceed 5mm.

2. Overall machine function test:

When starting up, there should be no black screen failure, screen flickering, white screen or screen flashing. The USB interface can read and write normally. The OTG interface can burn the system. The serial port function communication is normal. The speaker and microphone interfaces can broadcast and receive sound normally. The buzzer function sounds normally without tearing.

3. Overall appearance of the machine:

No missing PCBA parts, no damaged components. The WIFI antenna needs to be fixed with hot melt adhesive, and the LCD screen needs to be pasted with protective film.

Technical Support

Within 12 months from the date of purchase, front-line engineers will provide timely support during working days and working hours. The scope of support is as follows:

1. Support users to run Android system and related interface test programs.
2. support the common configuration of Android system
3. support customer Android product hardware support

Notes

1. Do not plug and remove the core board and peripheral modules with power on
2. Please follow all warnings and guidelines on the product
3. Please keep this product dry. If accidentally splashed or soaked by any liquid, power off immediately and allow to dry fully
4. Pay attention to the ventilation and heat dissipation of the product during use to avoid damage to components caused by excessive temperature
5. Do not use or store this product in a dusty or dirty environment
6. Do not use this product in alternating hot and cold environment to avoid damage to components
7. Do not handle the product roughly. Falling, knocking or violent shaking may damage the line and components
8. Do not use organic solvents or corrosive liquids to clean the product
9. Do not repair or disassemble the company's products by yourself. If the products fail, please contact the company in time for maintenance
10. Unauthorized modification or use of unauthorized accessories may damage the product, and the resulting damage will not be guaranteed
11. If the LCD screen continuously works at the highest brightness, the LCD backlight life cycle will be halved; If a high contrast static display is displayed for more than 30 minutes, it may cause residual images on the LCD screen. You are advised to add a screensaver to avoid this problem

Disclaimer

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