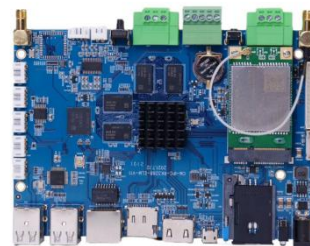


Product Introduction

CM580-6DF is a low-power, high-performance **Industrial Motherboard**, independently developed by Xiamen Caimore Communication Technology Co., Ltd. It adopts Rockchip RK3288 series CPU. The ARM-based processor combined with the Android operating system provides a very broad and free App operating environment; excellent computing and graphics performance, especially suitable for harsh or demanding industrial occasions and public space applications, It supports wide temperature operation, and expands a rich peripheral function interface.



Applicable Scene:

- ✧ Industrial field control acquisition
- ✧ Financial POS machine, vehicle control terminal
- ✧ Intelligent terminal in unattended environment
- ✧ Security/surveillance/police and IoT fields
- ✧ Human-computer interaction, intelligent retail



Model No.

Model No.	CPU	System Version	Dual screen different display	Screen Interface	Wi-Fi	Shell
CM580-6DF	RK3288	Android7.1.2/Linux	Support	LVDS, HDMI, MIPI	Optional	Optional

Product Features

Main Features of Rockchip RK3288 series CPU

- ✧ Super quad-core Cortex-A17, frequency up to 1.6GHz
- ✧ GPU uses Mali-T764 GPU, supports TE, ASTC, AFBC memory compression technology
- ✧ Support 4K VP9 and 4K 10bits H265/H264 video decoding, up to 60fps
- ✧ Built-in multiple high-performance hardware processing engines, capable of supporting multiple formats of video decoding, such as: H.264/H.265/VP9 of 4K*2K@60fps , also supports H.264/MVC/VP8 of 1080P@30fps and High-quality JPEG codec and image front and rear processors

GPU Advantages

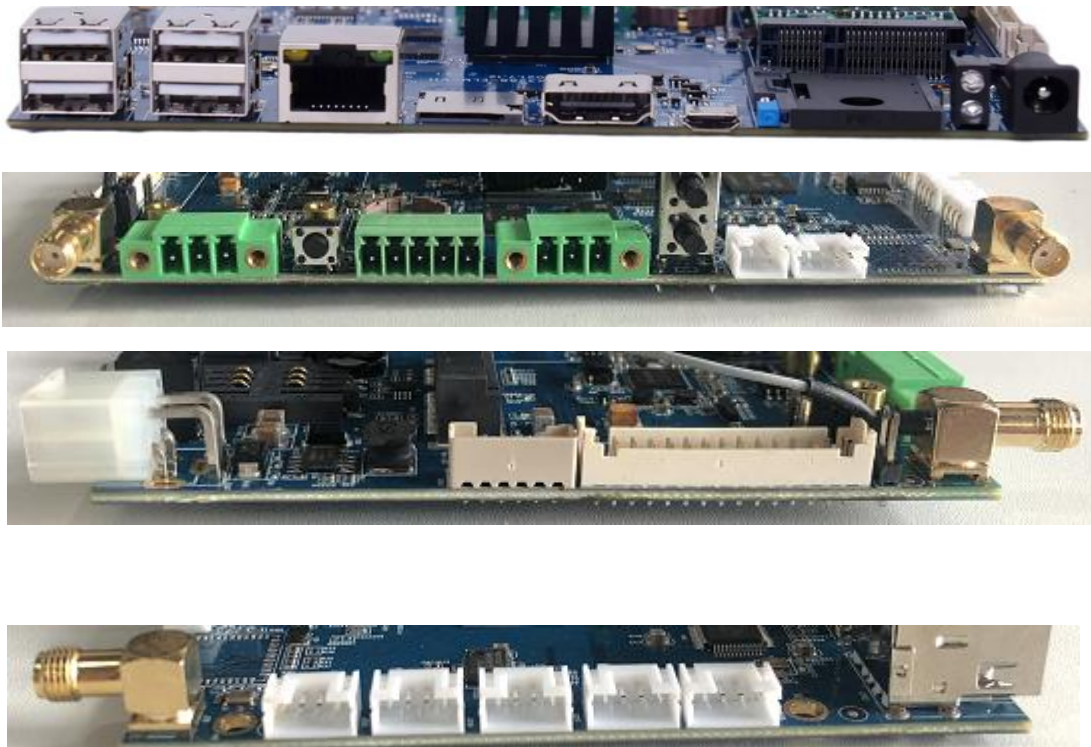
- ✧ ARM frame buffer compression technology
- ✧ Adaptive scalable texture compression technology
- ✧ TE Smart Elimination Technology
- ✧ Original stereo 3D game driver
- ✧ Original star search entertainment engine

Codec



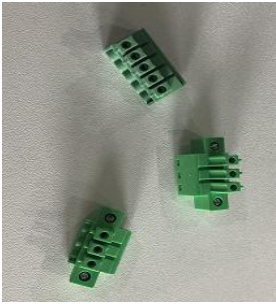

Rockchip RK3288 is a chip that supports 4Kx2K and hard-decode H.265 video, bringing users a clear visual enjoyment as a more efficient high-definition compression format. Compared with H.264, H.265 uses variable-size coding units and more advanced intra-frame prediction modes. With the same image quality, H.265 video can save half of the bandwidth compared to H.264. Rockchip RK3288 is the industry's first ARM core chip that supports 4K H.265 real-time hardware decoding. It has played its accumulated advantages in the audio and video fields in video support, and truly supports 4K video output and playback.

Technical Parameters

Device Interface Diagram



CM580-6DF Accessories

			
Power Connector	Ethernet Cable	Terminal Interface	Antenna

Performance Parameter

Item	Description
CPU	RK3288 SoC Cortex-A17 Quad Core @ 1.6GHz Max
Memory	DDR3 default 2GB (expandable)
Storage	EMMC default 8GB (expandable)

Function Interface

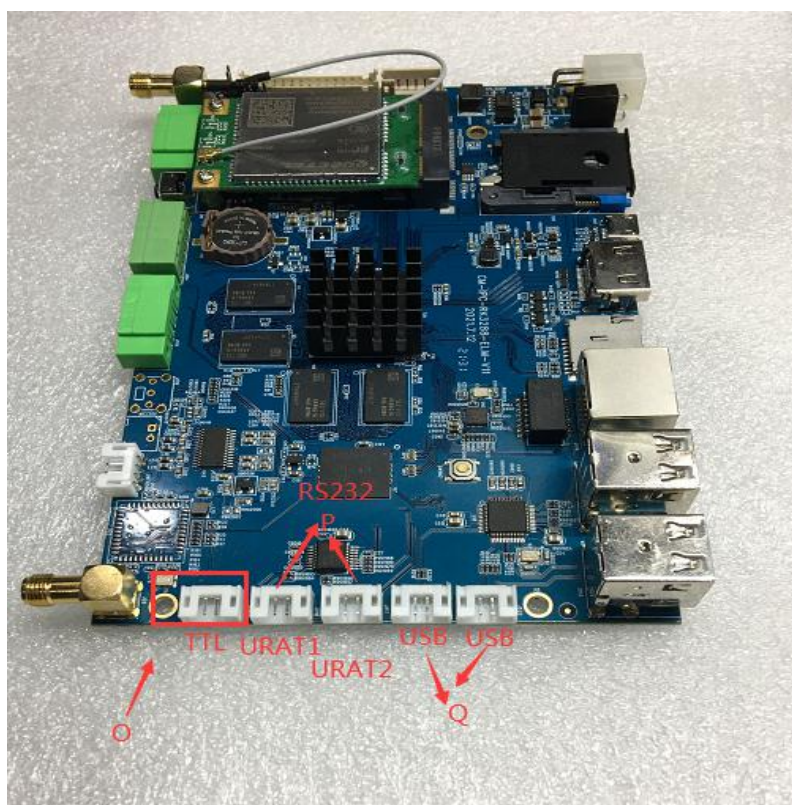
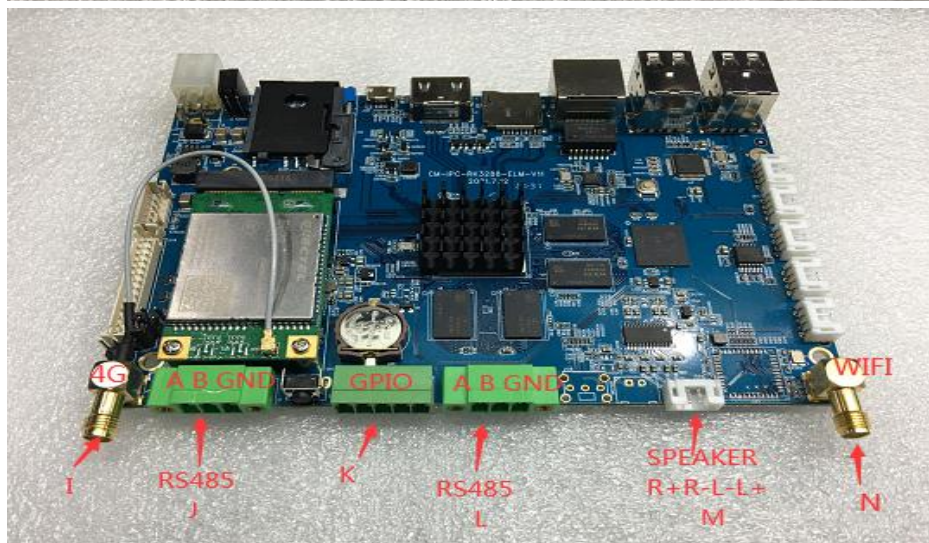
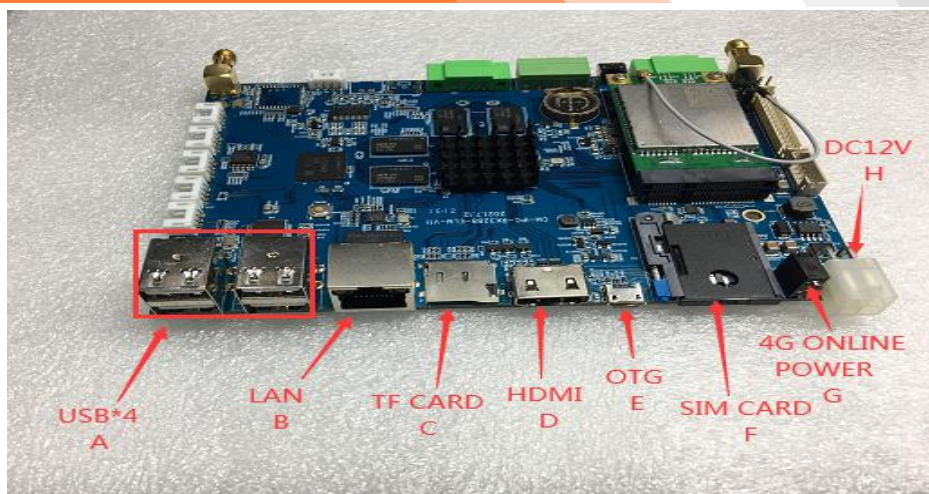
Item	Interface Description
LED	1 channel power indicator, 1 channel system indicator
BOOT Button	1 channel horizontal BOOT button, press and hold to re-program the system after power-on
KEY	1 horizontal RESET key , MODE key
Power	1 horizontal 2X2 pitch 4.2MM, 90 degree terminal socket, 12V DC 4A, with lightning protection function, over-voltage and over-current protection, anti-reverse connection protection.
Speaker	1 PH2.0 4P speaker interface, 2 channel amplifier speaker output, dual 15W
GPIO	4-channel GPIO ports, using bent-pin 5PIN3.5mm terminal sockets, see pin definitions for details
Serial Port	2-channel RS232 serial ports, 1 3.3V TTL serial port output, PH2.0x4P white socket
	2-channel RS485 serial ports, 15EDG 3.81mm with ears, flange, plug-in 3P
USB	6-channel USB ports, 4 of which are USB dual-layer A-type female sockets, and the other 2 are PH2.0x4P sockets, output current 500mA, 1 channel OTG. All comply with USB 2.0 specification and have over-current protection function.
Network	Adopt 4G network module, which must adopt PCIE Interface.
RJ45	1 channel 10M/100M bps, with indicator light
Wi-Fi/Bluetooth (Reserved)	1 on-board 2.4G Wi-Fi with hotspot function, 802.11b/G/ n, BT4.0

TF Card	Support 8G/16G/32G/64G/128G storage expansion function
LVDS	1 channel LVDS, output 1080P video, can directly drive 50/60Hz LCD screen

Item	Interface Description
HDIM	Standard HDMI
MIPI interface with touch	1 channel 30 PIN MIPI interface, 6PIN touch screen holder, 0.5mm pitch.
Program Download interface	With ADB function
RTC	Real Time Clock, Onboard RTC battery, support timing switch
WatchDog	Support software watchdog, system exception, automatic restart

Environment Parameters

Item	Description
Operating Temperature	-20 ℃ ~+70℃
Storage Temperature	-40 ℃ ~+80℃
Operating Humidity	95% no condensation

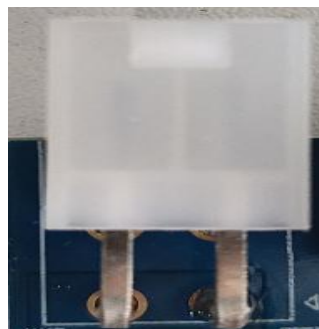


- A: Dual-layer USB port
- B: 100/100M Ethernet port
- C: TF card slot
- D: HDMI interface
- E: OTG debugging port
- F: SIM card slot
- G: Power and 4G online indicator
- H: 4PIN power socket DC12V input
- I: 4G antenna socket
- J: RS485
- K: GPIO socket
- L: RS485
- M: Speaker interface
- N: Wi-Fi antenna socket(reserved)
- O: Serial port 3.3V TTL
- P: RS232 serial port
- Q: USB port

Peripheral board interface pin definition

1. Power interface

2X2 pitch 4.2MM, 90 degree terminal socket, interface definition is as follows:



Interface definition (from bottom to top)	
VCC_12V	GND

2. Speaker interface

1 channel vertical PH2.0 4P white socket, interface definition is as follows:



Interface definition (from left to right)			
R+	R-	L-	L+

2. GPIO interface

1 channel 5PIN3.5mm terminal socket, interface definition is as follows:



Interface definition (from left to right)				
GND	GPIO8_A1 3.3V	GPIO8_A2 3.3V	GPIO8_A3 3.3V	GPIO7_B6 3.3V

4. RS232 and USB

5-channel PH2.0x4P white sockets, interface definition is as follows:



Interface sequence from left to right 1-4

	1	2	3	4
A	3.3V	RX	TX	GND
B	RS232_RXD0	RS232_TXD0	GND	GND
C	RS232_RXD2	RS232_TXD2	GND	GND
D	5V (Max current 500mA)	DM4	DP4	GND
E	5V (Max current 500mA)	DM3	DP3	GND

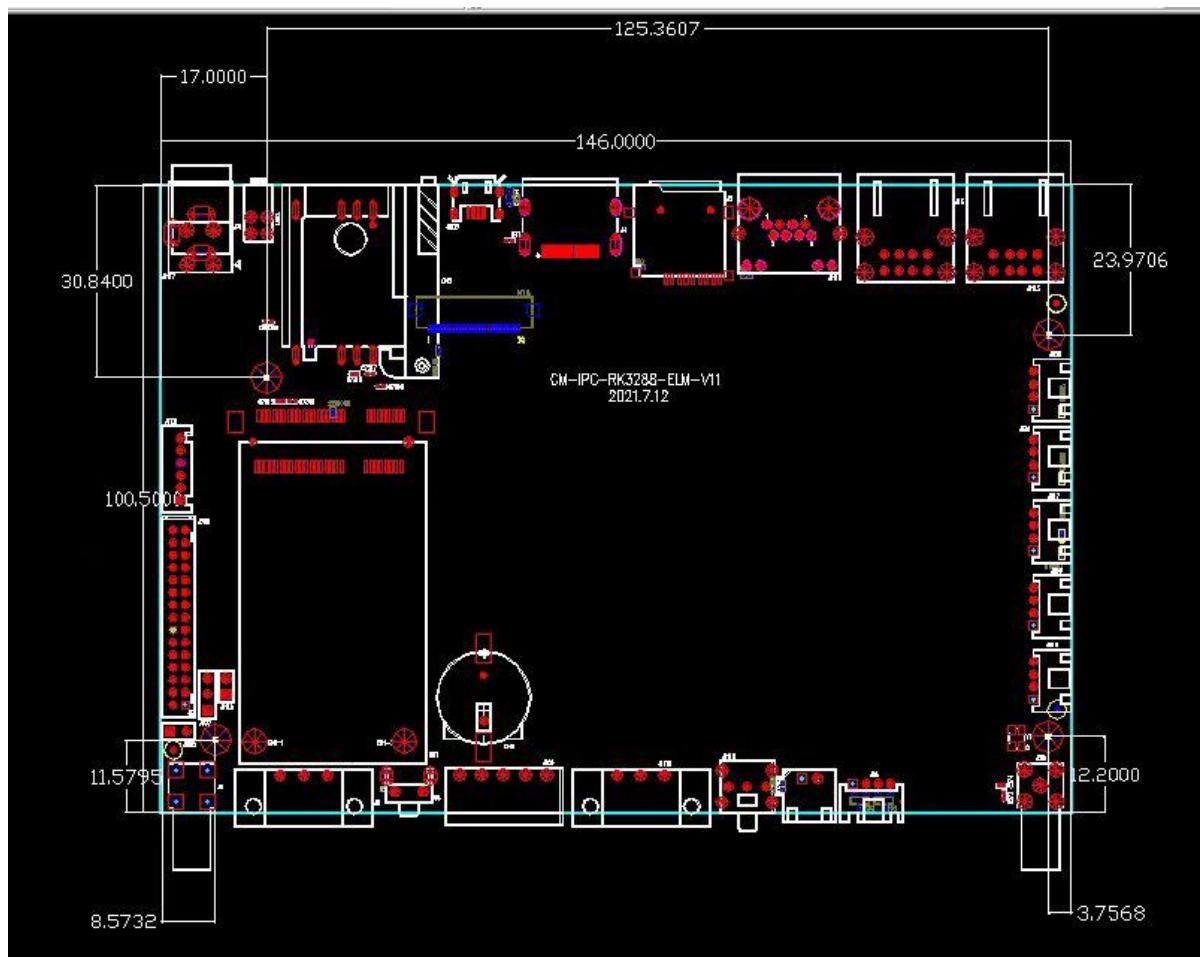
5. RS485

2-channel 15EDG 3.81mm with ears, flange, plug-in 3P, interface definition is as follows:



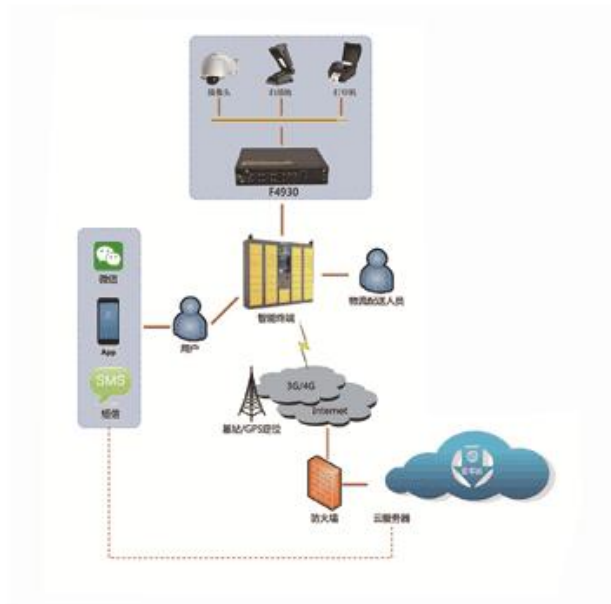
Interface definition (from left to right)		
485A	485B	GND

Installation Dimension



Product Application

1. Express cabinet



2. Topology Diagram of Caimore industrial PC



2、快递员取件



Typical Application



Corporate Qualification

Item	Content
	<p>2011, it was rated as "the best supplier for customer satisfaction in China's industrial control industry"; the company's GPRS DTU product was rated as "innovative product award".</p> <p>2012, the company became a member of "China Quality Travel".</p> <p>2013, the company became a member of the "Technical Innovation Strategic Alliance of Intelligent Power Transmission and Distribution Equipment Industry".</p> <p>2014, it was rated as an innovative pilot enterprise .</p> <p>2014, the company's Zhanjiang Wi-Fi coverage project was awarded the "Sample Engineering Award" by the 13th China Automation Annual Conference.</p> <p>2015, its video products were rated as "Top Ten Video Transmission Enterprises" by China's</p>

Corporate Honor	<p>industrial control industry.</p> <p>2015, the noise monitoring project was awarded the "Sample Project Award" by the 14th China Automation Annual Conference.</p> <p>2015, its video products were rated as "Top Ten Video Transmission Enterprises" by Huaqiang Security Network.</p> <p>2016, the video products was rated by Huaqiang Security Network as "2015-2016 High-quality Supplier in China's Security Industry".</p> <p>2016, it was rated as the "best supplier of charging equipment parts" by charging pile communication equipment.</p> <p>2016, won the " Product Gold Award of 2016 7th Guangzhou International New Energy Automobile Industry Exhibition ".</p> <p>2016, The 3rd China Good Wi-Fi Organizing Committee awarded Caimore "2016 Best Wi-Fi Industry Application Solution Provider".</p> <p>2018, the company's industrial router was rated as "China's Top Ten Industrial Router Brands", and DTU was rated as "China's DTU Top Ten Brands"</p> <p>2018, it was rated as a key listed reserve enterprise in Xiamen City.</p> <p>2019, it was rated as a key listed reserve enterprise in Xiamen City.</p> <p>2019, it was rated as a key listed reserve enterprise in Fujian Province.</p> <p>2019, Shortlisted for China Telecom Corporation Limited, DICT solution partner of Shanghai branch</p> <p>2020, Selected as a key listed reserve company in Xiamen</p>
High-tech Enterprise	2009, it was recognized as a high-tech enterprise by the country
Double-soft Enterprise	2010, it was recognized as a double-soft enterprise by the country
Occupational Health and Safety Management System Certification	<p>ISO9001:2015 quality management system conforms to the standard</p> <p>ISO14001:2015 environmental management system conforms to the standard</p> <p>ISO45001:2018 occupational health and safety management system conforms to the standard</p>
Copyright	The company has 7 patented technology certificates to maintain equipment stability and 31 software copyright certificates.
Offices	Nine regional offices have been established nationwide to provide customers with close and considerate services.
Registered Capital	The company has a registered capital of 20.58 million; it is a key high-tech enterprise supported by Xiamen City.
Historical Accumulation	18 years of industry R&D accumulation and industry application test.