



# T-Chip technology

## IPC-M10R800-A3288C

Quad-core Industry  
Panel Computer



Version	Date	Updated content
V1.0	2018-11-05	Original version



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## Company Profile

T-Chip Intelligent Technology Co., Ltd. was founded in 2005. It has more than 10 years of research and development experience in scientific and technological products, has 6 invention patents and more than 30 computer software copyrights, and is a national high-tech enterprise. We focus on the research and development, design, production and sales of open source intelligent hardware, internet of things and digital audio products, and provide the overall solution for intelligent hardware products meanwhile.



Firefly is a brand owned by T-chip Technology. It operates open source products, open source communities and online stores. It has a large number of enterprise users and developer users, and its products are well received by users. Firefly open source products include open source boards, core boards, industry mainboards, etc. The open-source board series is the recommended board card by chip original factory Rockchip and obtain the support of native SDK. The core boards and industrial mainboards are widely used in commercial displays, advertisement integrated machines, intelligent POS, face recognition terminals, internet of things, intelligent cities, etc. At present, there are more than 100,000 users, including over 2,000 enterprise users. And well-known users include ARM, Google, Baidu, Tencent, Alibaba, etc.

Firefly team has more than 60 research and development members and has the research and development capabilities in schematic design, PCB layout, mainboard production, embedded development, system development, application program development, etc., which accelerates the research and development process for many technology entrepreneurs and start-ups, and provides professional technical services.

**"Make technology more simple, Make life more intelligent"** is the idea of Firefly team. We hope to make the research and development of various technology products efficient and simple, and let intelligent technology integrate in our lives through the open source products and technical services of Firefly.

# 1. Product Overview

## 1.1 Overview

IPC-M10R800-A3288C Quad-core Industry Panel Computer, Based on AIO-3288C high-performance open source platform, equipped with high-quality industrial-grade metal case, 10-point touch IPS HD screen, sensitive and fast touch, support 4K hard solution, possess powerful hard decoding capability and rich interfaces, which enable quickly implement various scene applications.

Adapt RK3288 quad-core Cortex-A17 processor, frequency up to 1.8GHz, integrated quad-core Mali-T764 GPU, maximum support 4K hardware decoding, and it can achieve 4Kx2K H.264 and H.265 video hard decoding.

Configure 10.1-inch IPS high-end screen, 800 x 1280 resolution, support dual-screen identical display/dual-screen differential display, full-view HD display with vivid color, the high degree of reproduction, clear and natural image.



G+G capacitive touch screen, support 10-point touch, gravity sensing, precise and sensitive touch, stable and smooth operation.

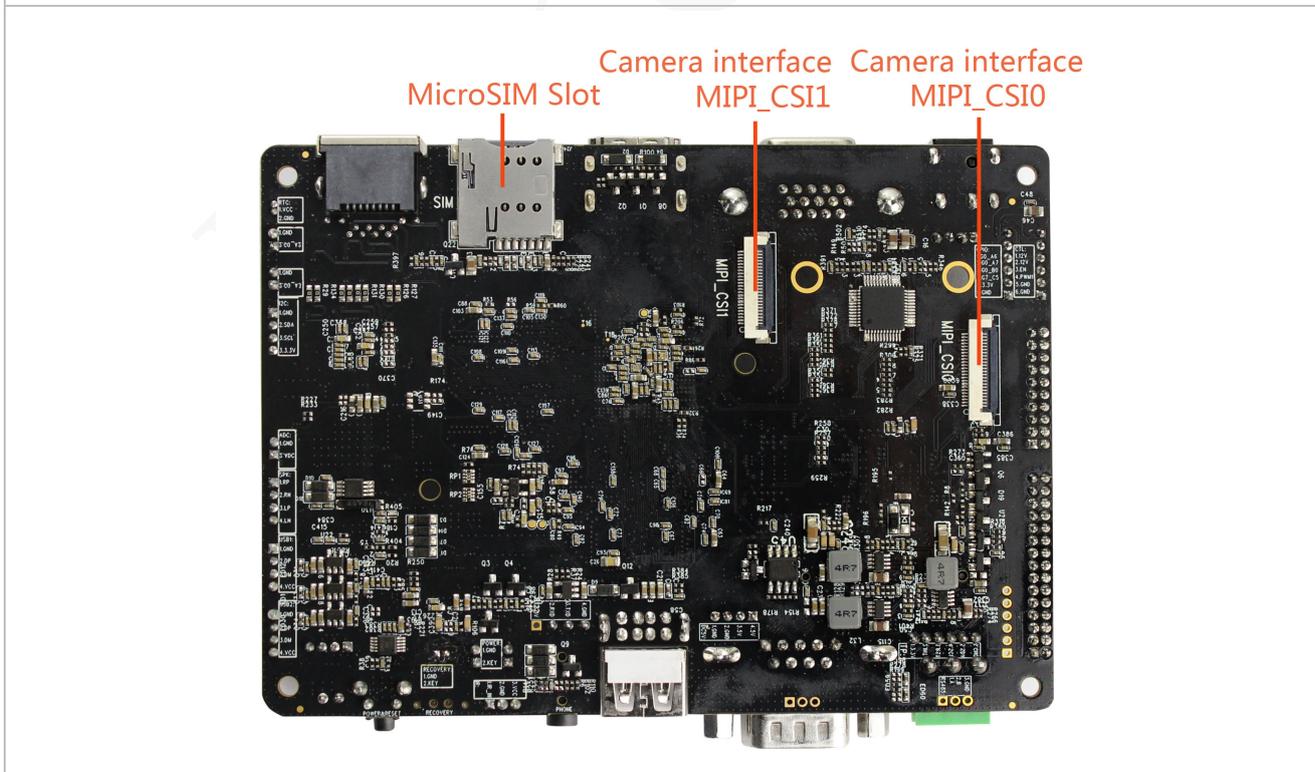
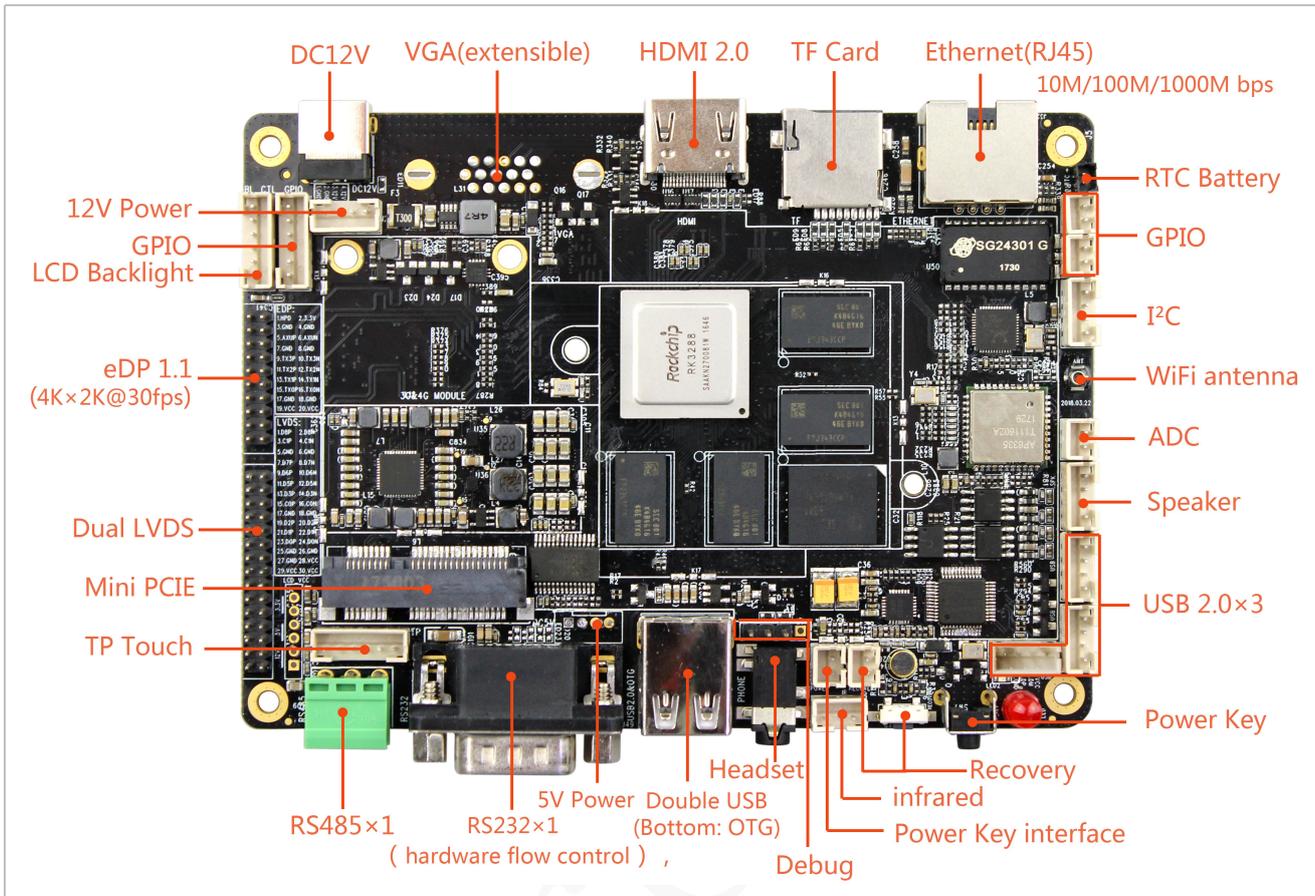
Equipped with high-quality industrial-grade metal case, sturdy and durable, dustproof and anti-jamming. Feature fanless design, efficient heat dissipation, noise reduction, high-temperature resistance and stable operation at 7X24 hours.

With LAN, HDMI, VGA, RS485 (with hardware flow control), RS232 and other interfaces, easy to connect equipment from various industries. Provide source code, tutorials, technical materials and development tools, making it easier and faster to use.

## 1.2 Interface description



# 1.3 Mainboard Interface





## 2 Hardware Specifications

### 2.1 Main Specifications

Specification	
CPU	RK3288 Quad-core Cortex-A17, frequency up to 1.8GHz
GPU	Mali-T764 GPU, support AFBC(Frame Buffer Compression ) Support OpenGL ES 1.1/2.0/3.1, OpenCL, DirectX9.3 Embedded high-performance 2D acceleration hardware
DDR	2GB dual channel DDR3
Storage	8GB eMMC 5.1, Support MicroSD (TF) Card
Network	Support Gigabit Ethernet (RJ45) On-board WIFI/BT module, support single frequency WiFi 2.4GHz, 802.11 b/g/n protocol On-board MINI PCIE ( 3G/4G ) socket and SIM slot, use to expand 3G/4G mobile communication function Support WCDMA,EVDO,4G full Netcom Support Bluetooth 4.2
Multimedia	Support 4K 10bits VP9/H265/H264 video decoding, up to 60fps 1080P Multi-format video decoding (VC-1, MPEG-1/2/4, VP8) 1080P video encoding, support H.264, VP8 formats Video post processor: deinterlacing, denoising, edge/ detail/ color optimization
Display	HDMI 2.0 support 4K 60Hz display, support HDCP 1.4/2.2 VGA interface support 1080P@60Hz output Support dual-screen identical display/dual-screen differential display Main board Scalable: Dual LVDS support 1080P@60Hz LCD screen, eDP1.1 support 4K×2K@32fps
Other	GPIO, USB, ADC, I2C, Key, and voltage input and output interface
Audio	1 x HDMI audio output, 1 x Phone, 1 x Two-channel Speaker (8Ω/2W Speaker amplifier)
USB	1 x USB_OTG, 1 x USB_HOST, 3 x USB
Serial port	1 x RS232(With hardware flow control) , 1 x RS485, 1 x Debug serial port,
IR	With a one-way infrared receiver, Support infrared remote control
OS	Support Android\Linux\Ubuntu system
Power	DC 12V-2A ( DC5.5 × 2.1mm )



### 2.2 Display Performance

Type	Parameter
Screen	10.1 inch IPS screen
Resolution	800 x 1280 Pixel ( 10:16 )
Touch Screen	Capacitive 10-point touch screen
Brightness	200 cd/m2

### 2.3 Visual parameter

Angle	Parameter	Min	Max
$\theta_L$	$\Phi=180^\circ$ ( 9 o' clock )	80	85
$\theta_R$	$\Phi=0^\circ$ ( 3 o' clock )	80	85
$\theta_T$	$\Phi=90^\circ$ ( 12' clock )	80	85
$\theta_B$	$\Phi=270^\circ$ ( 6' clock )	80	85

### 2.4 Environmental Parameter

Type	Min	Typical	Max
Operating Temperature	-20 °C	25 °C	60 °C
Storage Temperature	-40 °C	25 °C	125 °C

### 2.5 Appearance Structure

Type	Min
Size	260 x 171 x 29.5 mm



## 4. Appendix

### 4.1 .Source code acquisition

Please visit the official website "Resource Download": ( [please click here](#) )

### 4.2 .Contact us



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