

# EC-R3399PC

Six-Core 64Bit Embedded Computer  
V1.0



T-CHIP INTELLIGENCE TECHNOLOGY CO.,LTD.  
[www.t-firefly.com](http://www.t-firefly.com)

## | Update history

Version	Date	Details
V1.0	2022-5-18	initial version

Firefly

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## Overview

EC-R3399PC is powered by Rockchip RK3399 6-core processor, and is integrated with Mali-T860 quad-core GPU, with built-in Gigabit Ethernet, dual-band WiFi and Bluetooth 5.0. Supporting various operating systems and providing abundant interfaces, the PC is suitable for scenarios such as smart NVR, cloud terminal, IoT gateway, industrial control.

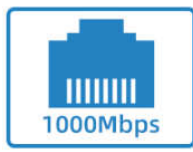
### RK3399 6-core 64-bit processor

It uses server-grade Dual-core Cortex-A72+Quad-core Cortex-A53 big.LITTLE architecture, with frequency up to 1.8GHz. Integrated with Mali-T860 quad-core GPU, it supports OpenGL ES1.1/2.0/3.0/3.1, and with built-in VPU, it supports 4K 10bits H.265/H.264 video decoding.



### Powerful network communication

Supporting Gigabit Ethernet, 2.4GHz/5GHz dual-band WiFi (802.11 a/b/g/n/ac protocol), and Bluetooth 5.0, it delivers fast and smooth data transmission so that it is suitable for a variety of application scenarios.



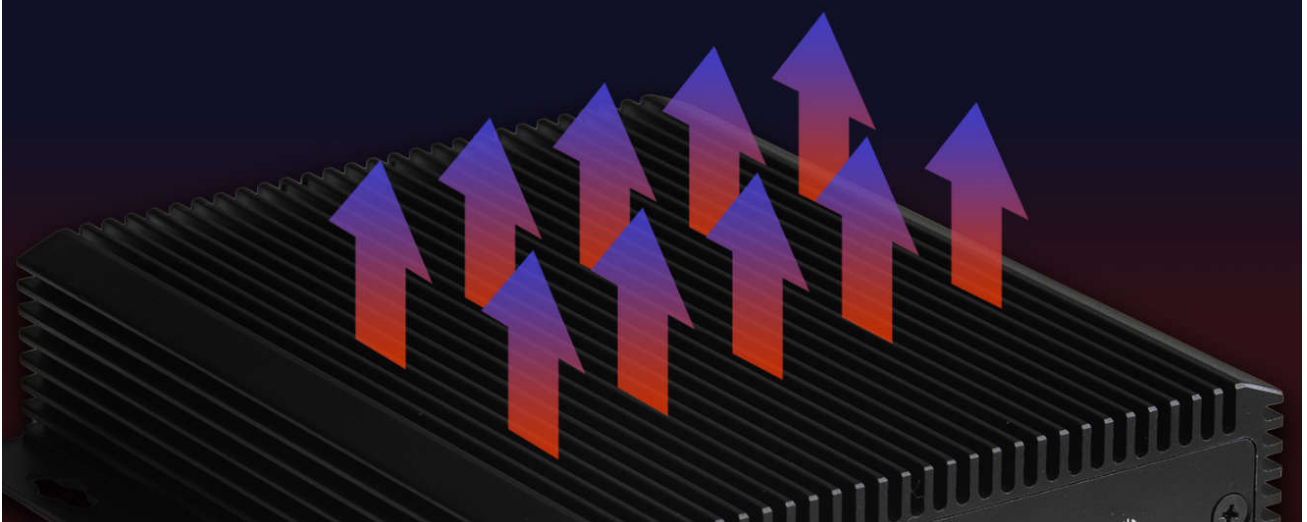
### Hard disk for massive capacity

2242 NVMe SSD can be expanded through M.2 PCIe2.1 interface, with large storage capacity and fast read and write speed.



### Excellent heat dissipation

Equipped with industrial-grade metal enclosure, with fanless design but efficient heat dissipation, it features low power consumption and zero noise; and it supports 7x24h continuous and stable operation.





## Supports various operating systems

The PC can run Android, Ubuntu, Debian9, Linux+QT and other operating systems stably, and it also supports xserver and wayland display servers. With on-board SPI flash, it supports TF card, EMMC, SSD and U disk boot, making system boot more convenient and fast.



## Abundant resources for customization

A complete SDK, development documents, examples, technology documents, tutorials and other resources are provided for the users to make a further customization.



## A wide range of applications

This PC can be widely used in cloud terminal, smart gateway, vehicle center console, industrial control, edge computing, face recognition PC, NAS, smart NVR, etc



# Specification

## Basic Specifications

SOC	Rockchip RK3399
CPU	Six-core 64-bit processor (2×Cortex-A72 + 4×Cortex-A53), frequency up to 1.8GHz
GPU	Mali-T860 MP4 quad-core GPU, Support OpenGL ES1.1/2.0/3.0/3.1, OpenVG1.1, OpenCL, DX11
VPU	Support 4K VP9 and 4K 10bits H265/H264 video decoding, up to 60fps 1080P multi-format video decoding (WMV, MPEG-1/2/4, VP8) 1080P video encoding, support H.264 and VP8 Video post-processing: IVTC, denoising, edge/detail/color optimization
RAM	2GB/4GB LPDDR4
Storage	16GB/32GB/64GB/128GB eMMC SPI Flash: on-board 16MB (16MB-512 MB optional)
Storage Expansion	1 × PCIe2.1 (2Lane), can expand with one 2242 NVMe SSD 1 × TF Card Slot

## Hardware Specifications

Wireless	Support 2.4GHz/5GHz dual-band WiFi, Support 802.11 a/b/g/n/ac protocol Support Bluetooth 5.0 (BLE)
Ethernet	1000Mbps Gigabit Ethernet (RJ45)
Video Output	1 × HDMI2.0, 4K@60fps video output 1 × DP1.2 (USB-C), 4K@60fps video output * Support dual-monitor display: 1×USB-C (2K output)+ 1×HDMI (4K output)
Audio	1 × 3.5mm audio jack (MIC input) 1 × HDMI2.0 audio output 1 × DP1.2 audio output (USB-C)
USB	1 × USB3.0 (Limit 1000 mA) 1 × USB2.0 (Limit 500 mA) 1 × USB-C multi-function interface (USB3.0 OTG data transmission and DP1.2video output)
Button	1 × Power key 1 × Recovery key (at the bottom of the audio jack)
IR	Support infrared remote control
Power	DC12V (5.5*2.1mm jack, support 9V~24V wide voltage input)

## OS/Software

OS	Support Android10.0, Ubuntu20.04, Station OS, Debian9, Linux+QT, etc. Support TF card, EMMC, SSD and USB flash drive boot up
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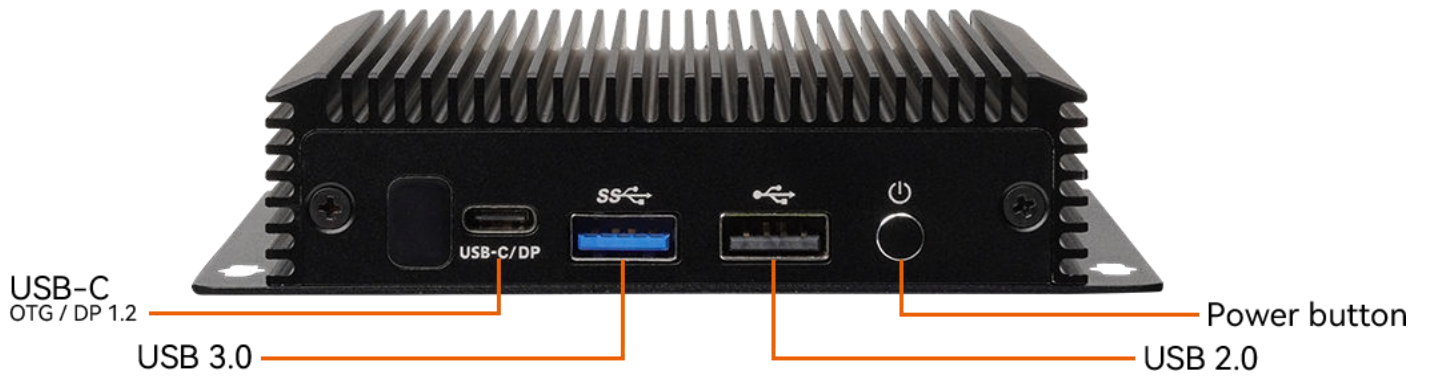
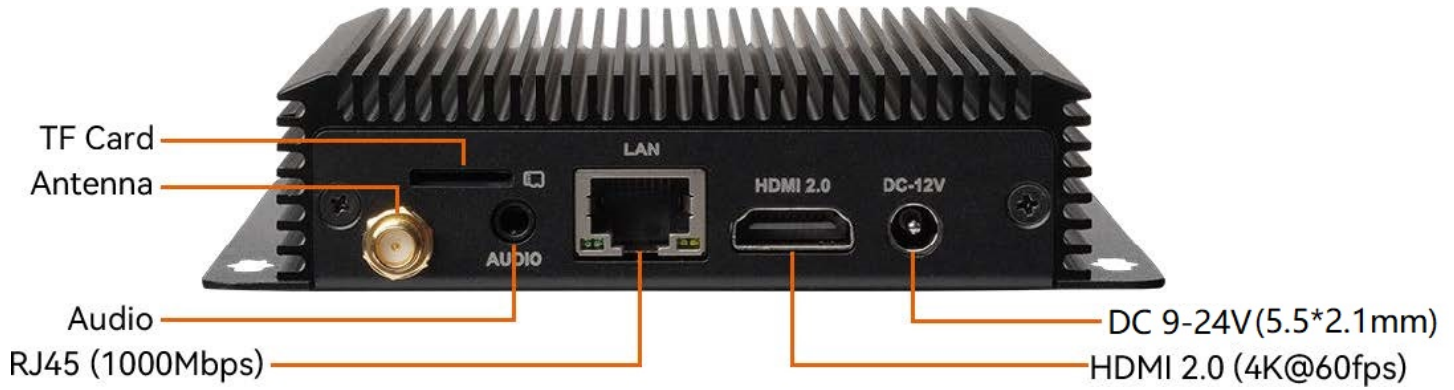
## General

Size	119mm×124.4mm×27mm
Appearance	Industrial-grade metal enclosure, all aluminium alloy top cover, matte black, and fanless design
Weight	≈0.52kg
Power Consumption	Idle: 0.12W Typical: 3.6W Max: 9.6W
Environment	Operating Temperature: -20°C- 60°C Storage Temperature: -20°C- 70°C Storage Humidity: 10% ~ 80 %RH(non-condensing)

# Dimension



# Interface





# T-CHIP TECHNOLOGY

Create Value for Customers  
Pursue Sustainable Development

## About us

T-CHIP focuses on R&D, design, production and sale of open source intelligent hardware, AI, IoT and audio product, and provides the whole solution of intelligent hardware products. T-CHIP is a Independent Design House officially authorized by RockChip and its strategic partner. We have been working closely with RockChip and contributing to embedded electronic industry for over 15 years. "Create Value for Customers, Pursue Sustainable Development" is our philosophy. We hope to achieve win-win development and move together for a shared future



## Our Brands



Firefly is an open source brand in 2014. "Make technology more simple, Make life more intelligent" is its philosophy. We promote intelligent upgrades in the industries of new technology, intelligent hardware, AI, AIOT, and digital audio product, and build a more open and professional platform for intelligent hardware technology



Station PC is a new brand in 2020, consisting of the core geek members. We create entertainment products for new generation of people with innovative spirit through exploration of pan-entertainment. "More Entertainment, More Free Creation" is its philosophy. We aim at making everyone enjoy themselves and awakening interesting souls with more extreme product experience



T-Chip Intelligent Technology  
Website: [www.t-firefly.com](http://www.t-firefly.com)  
E-mail: [sales@t-firefly.com](mailto:sales@t-firefly.com)  
Service: [service@t-firefly.com](mailto:service@t-firefly.com)  
PostCode: 528400  
Address: 2101, Hongyu Building, #57 Zhongshan 4Rd, Zhongshan, Guangdong



Make technology more simple  
Make life more intelligent



186 8811 7175  
400-151-1533