

Specifications

Basic Specifications	
SOC	RockChip RK3588
CPU	8-core 64-bit (4×Cortex-A76+4×Cortex-A55) , 8nm lithography process, frequency up to 2.4GHz
GPU	ARM Mali-G610 MP4 quad-core GPU Supports OpenGL ES3.2 / OpenCL 2.2 / Vulkan1.1, 450 GFLOPS
NPU	NPU computing power is up to 6 TOPS, Supports INT4/INT8/INT16 mixed operation, Supports framework switching of TensorFlow / MXNet / PyTorch / Caffe / etc.
ISP	Integrated 48MP ISP with HDR&3DNR
VPU	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1 1080P@60fps MPEG-2/-1/VC-1/VP8 Video encoding: 8K@30fps encoding, Supports H.265 / H.264 * Achieves up to 32-channel 1080P@30fps decoding and 16-channel 1080P@30fps encoding
RAM	4GB/8GB/16GB 64bit LPDDR4/LPDDR4x/LPDDR5 (Up to 32GB optional)
Storage	16GB/32GB/64GB/128GB eMMC
Storage Expansion	1 × SATA3.0, can expand with 1 pcs of SATA3.0 SSD/HDD

Hardware Specifications

Wireless	2.4GHz/5GHz dual-band WiFi6, Bluetooth 5.0, supports 5G/4G LTE expansion
Ethernet	2 × GbE (RJ45) , one supports POE power supply, max output 60w
Display	<p>Video output:</p> <p>1 × HDMI2.1 (8K@60fps or 4K@120fps)</p> <p>1 × DP1.4 (8K@30fps, multiplexed with USB3.0)</p> <p>Video input:</p> <p>1 × HDMI-IN (4K@60fps) , Supports HDCP 2.3</p> <p>1 × 2 lane MIPI-CSI input</p> <p>* Supports multi-channel 8K video output and 4K video input, up to four-screen output with different displays</p>
Audio	<p>Audio output:</p> <p>1 × Speaker output</p> <p>1 × HDMI audio output</p> <p>1 × DP audio output</p> <p>Audio input:</p> <p>1 × HDMI audio input</p>
PCIE	1 × PCIe3.0 (4Lane) , can expand with standard PCIe3.0 devices
SATA	1 × M.2 interface (SATA3.0) , 4 × standard SATA3.0 interface
USB	<p>1 × USB3.0 (Limit 1A)</p> <p>2 × USB-C (USB3.0 / DP1.4) (Limit 2A)</p> <p>2 × USB2.0 (3 of them are pins) (Limit 500mA)</p>
Power	<p>Various power supply ways:</p> <p>DC12V input (DC5.5 × 2.1mm)</p> <p>POE 48V power input (up to 60W)</p>
Other Interface	1 × RS485 , 1 × RS232, 8 × GPIO, 1 × I2C, 1 × Heating (12V), 6 × GPIO

OS/Software	
OS	Android: Android 12.0 Linux: Ubuntu Desktop, Ubuntu Server, Debian11, Buildroot, RTLinux, Kylin Linux, UOS * Supports UEFI Boot
General	
Size	14cm×10cm
Heat Dissipation	Heat sink installation hole pitch: 45mm
Power Consumption	Idle: $\approx 1.35\text{W}$ (12V/110mA) Typical: $\approx 4.8\text{W}$ (12V/400mA) Max: $\approx 12\text{W}$ (12V/1000mA)
Environment	Operating Temperature: -20°C - 60°C , Storage Temperature: -20°C - 70°C , Storage Humidity: 10% - 80%

