

Basic Specifications

SOC	RockChip RK3588S
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 Support OpenGL ES3.2 / OpenCL 2.2 / Vulkan1.1, 450 GFLOPS
NPU	NPU computing power up to 6 TOPS, Support INT4/INT8/INT16 mixed operation, Support framework switching of TensorFlow / MXNet / PyTorch / Caffe
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, support H.265 / H.264 *Achieve 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

Hardware Specifications

Network	Integrated GMAC/SDIO3.0/USB3.0 interface, can be expanded with GbE, WiFi6/Bluetooth and 5G/4G LTE
Video Output	1 × HDMI2.1 (8K@60fps or 4K@120fps) 2 × MIPI-DSI (4K@60fps) 1 × DP1.4 (8K@30fps) 2 × eDP1.3 (4K@60Hz) 1 × BT.1120 (1080@60fps) * Up to four-screen output with different displays can be achieved.
Video input	2 × MIPI DC (4 Lane DPHY v2.0 or 3 Lane CPHY V1.1) 1 × MIPI CSI (4 Lane) or 2×MIPI CSI (2 Lane) 1 × DVP camera interface (up to 150MHz data input)
Audio	2 × 8 Lane I2S 2 × 2 Lane I2S 2 × SPDIF 2 × 8 Lane PDM (support multi-Mic array) 1 × dual-channel digital audio codec (16-bit DAC) 1 × VAD
PCIE	2 × PCIe2.0
SATA	2 × SATA3.0
USB	3 × USB3.0、2 × USB2.0 Host 1 × USB2.0 OTG
Power	4V (voltage deviation±5%)
Other	9 × I2C、10 × UART、5 × SPI、12 × ADC、3 × CAN、16 × PWM、 1 × SDMMC、Multiple GPIO

OS/Software

OS	Android: Android 12.0 Linux: Ubuntu Desktop, Ubuntu Server, Debian11, Buildroot, RTLinux Kylin Linux, UOS, etc. *Supports UEFI Boot
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General

Size	69.6mm × 49.3mm
Weight	≈50g (no peripheral devices)
Interface Type	SODIMM (260 PIN, 0.5mm pitch)
Heat Dissipation	cooling fan (Click to view)
Power Consumption	Typical: ≈1.6W(4.0V/400mA) Max: ≈12W(4.0V/3A)
Environment	Operating Temperature: -20℃~60℃ Storage Temperature: -20℃~70℃ Storage Humidity: -40%~70 %



