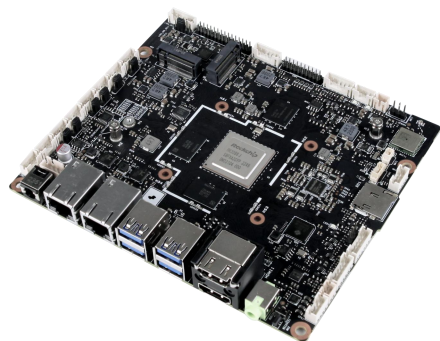


# JES-R88I

## Rockchip RK3588J Embedded Board

JES-R88I is an Arm-based single board computer powered by industrial grade Rockchip RK3588J SoC, which includes octa-core Arm Cortex processors and integrates a 6 TOPS NPU for deep learning acceleration. It supports HDMI, eDP and LVDS for video input & output, and provides rich I/O resources including 2x GbE, 2x CAN, 5x USB, 6x COM, 7x GPIO. JES-R88I can deliver best-in-class graphics performance and AI capabilities, ideal for edge computing and edge AI applications.

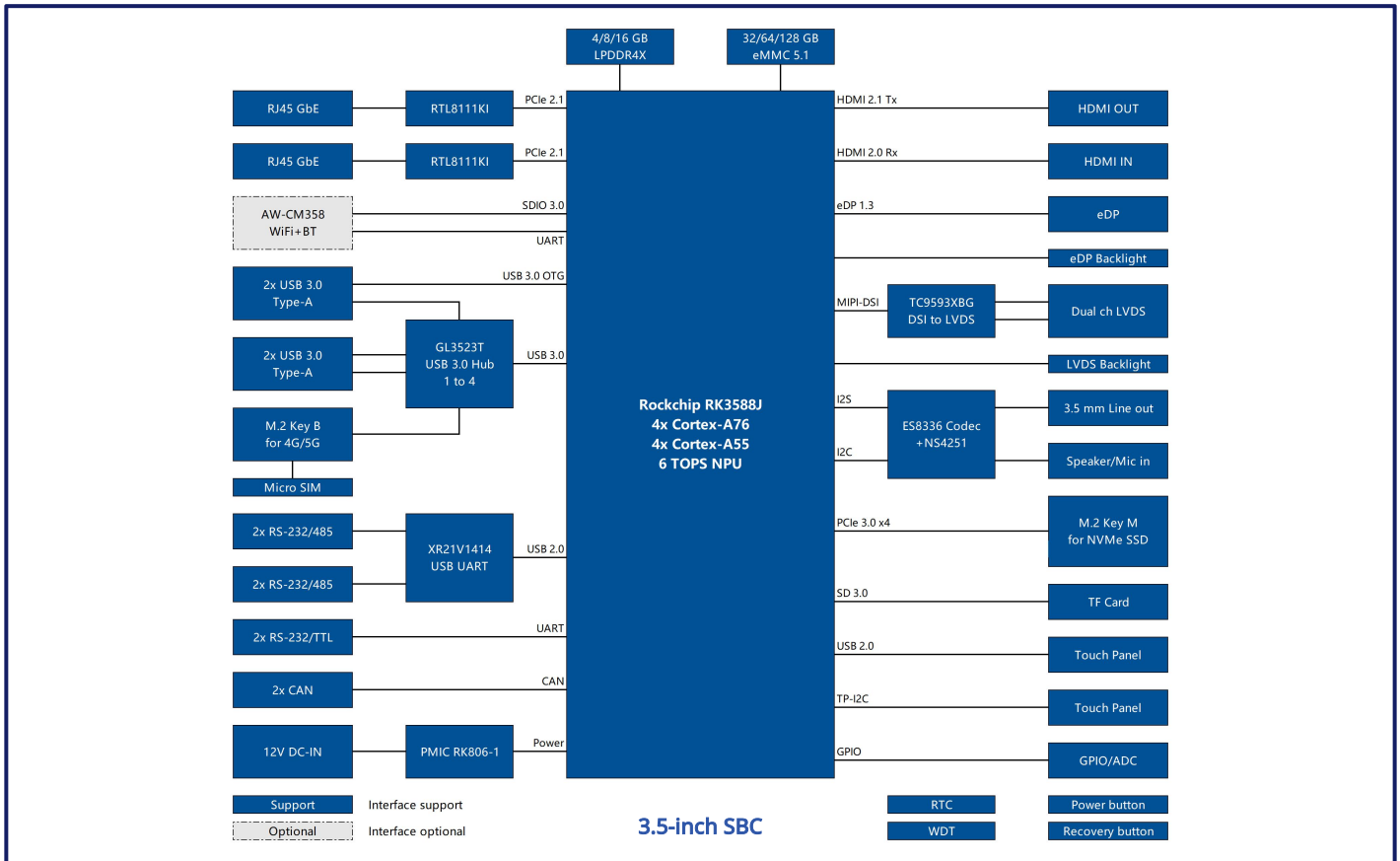


- Industrial-grade Rockchip RK3588J SoC
- 4x Cortex-A76 + 4x Cortex-A55 + Mali-G610 GPU + 6 TOPS NPU
- On-board 4/8/16GB LPDDR4X + 32/64/128GB eMMC
- Display: 1x HDMI In, 1x HDMI Out, 1x eDP, 1x LVDS
- I/O: 2x GbE, 2x CAN, 5x USB, 6x COM, 7x GPIO
- Expansion: on-board WiFi+BT, 2x M.2 for 5G/4G & NVMe SSD
- Supports 0~60°C/-40~85°C operating temperature

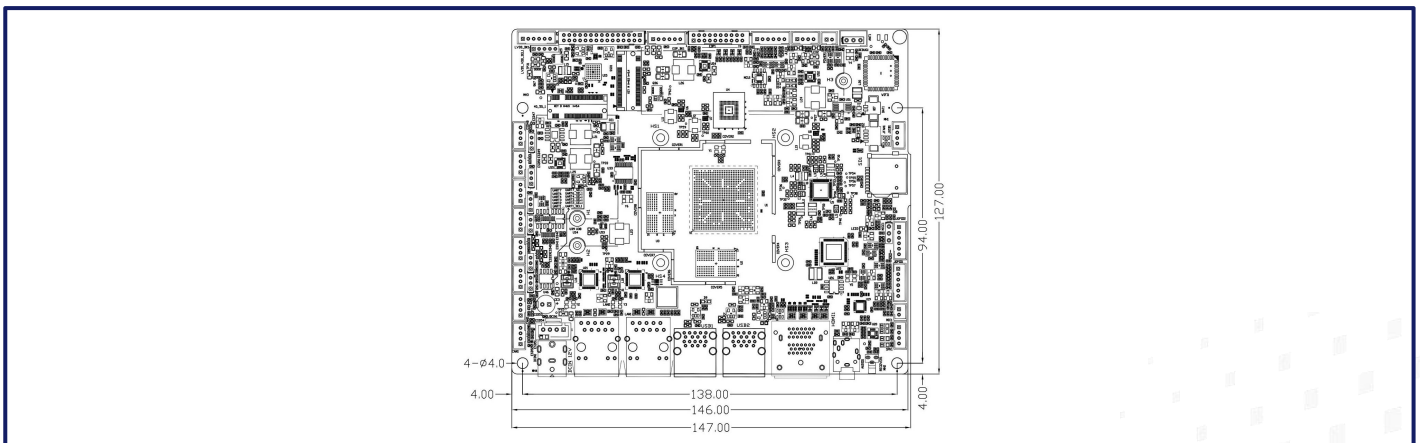
## 01 Specifications

<b>CPU</b>	Rockchip RK3588J/RK3588 Quad core Arm Cortex-A76 up to 2.2 GHz (consumer) / 2.0 GHz (industrial) Quad core Arm Cortex-A55 up to 1.8 GHz (consumer) / 1.7 GHz (industrial)
<b>NPU</b>	6 TOPS Neural Network performance
<b>GPU</b>	Arm Mali-G610 MP4, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.2, Vulkan 1.2
<b>H/W Video Codec</b>	H.265/H.264/VP9/AV1/AVS2 Decoder up to 8K60, H.265/H.264 Encoder up to 8K30
<b>Memory</b>	On-board 4GB/8GB/16GB LPDDR4X
<b>Storage</b>	On-board 32GB/64GB/128GB eMMC 5.1 for OS 1x M.2 2280 (PCIe x4) for NVMe SSD or AI accelerator 1x Micro SD slot for storage expansion
<b>Ethernet</b>	2x RJ45, 10/100/1000 Mbps, 4kV Surge protection
<b>WiFi</b>	On-board AW-CM358 WiFi 5 (802.11ac) + Bluetooth 5.2 module
<b>5G/4G</b>	1x M.2 Key B for 4G/5G (USB 3.0), 1x Micro SIM slot
<b>Display</b>	1x HDMI 2.1 Tx up to 4K60 1x eDP 1.3 (2x10-pin 2.0mm header), 1x eDP backlight (12V, 1x6-pin 2.0mm wafer) 1x Dual channel LVDS (2x15-pin 2.0mm header), 1x LVDS backlight (12V, 1x6-pin 2.0mm wafer) Supports HDMI+eDP+LVDS Triple independent display
<b>Video Input</b>	1x HDMI 2.0 Rx up to 4K30
<b>Audio</b>	1x 3.5mm Line out, 1x Speaker (2x3W) & 1x Mic in via pin headers
<b>USB</b>	4x USB 3.0 Type-A (1 supports OTG for OS image flashing), 1x USB 2.0 via pin header
<b>Serial Port</b>	4x RS-232/485, 2x RS-232/TTL, 1x Debug via pin headers
<b>CAN</b>	2x CAN via pin headers
<b>I2C</b>	1x I2C for touch control
<b>GPIO</b>	7x GPIO (3.3V TTL level) & 1x ADC (0~1.8V input) via pin headers
<b>Board Features</b>	Watchdog Timer, RTC, power button, programmable LEDs
<b>Power Supply</b>	12V DC-IN via 5.5x2.5mm DC Jack or 1x4-pin 2.5mm wafer
<b>Form Factor</b>	146mm x 127mm (3.5-inch form factor mounting compatible)
<b>OS Support</b>	Android 12, Debian 11, Ubuntu 20.04, OpenHarmony 4.0
<b>Operating Conditions</b>	0~60°C/-20~70°C/-40~85°C, 10%~90% RH non-condensing
<b>Storage Conditions</b>	-40~85°C, 5%~90% RH non-condensing

## Block Diagram



## Dimensions



## Order Information

Part Number	SoC	Memory	Flash	WiFi	LAN	USB	RS232	RS485	CAN	GPIO	Operating Temp.
JES-R881-AOM42	RK3588J	8GB	64GB	WiFi 5	2	5	4	2	2	7	-40~85°C
JES-R881-AOX42	RK3588J	16GB	128GB	WiFi 5	2	5	4	2	2	7	-20~70°C
JES-R881-BOM42	RK3588	8GB	64GB	WiFi 5	2	5	4	2	2	7	0~60°C
JES-R881-BOL42	RK3588	4GB	32GB	WiFi 5	2	5	4	2	2	7	0~60°C