

JEA-E088

Rockchip RK3588
Arm-based Edge AI BOX

Features

- Rockchip RK3588 SoC up to 2.4 GHz
- 4x Cortex-A76 + 4x Cortex-A55 + Mali-G610 GPU
- 6 TOPS NPU, supports AI accelerator expansion
- Multi-stream video decoding & analytics
- Dual GbE LAN for camera connectivity
- WiFi, BT, 5G/4G & Zigbee for remote access
- M.2 NVMe SSD & SD card for storage
- On-board TPM 2.0 module for security
- Android / Linux / OpenHarmony OS support



OpenHarmony

Product View

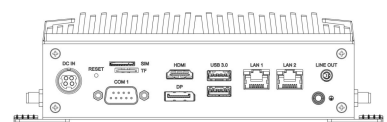
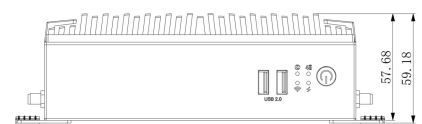
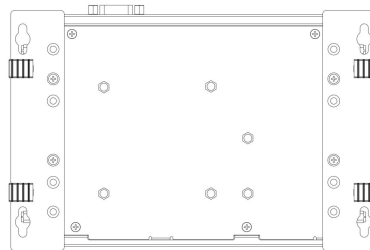
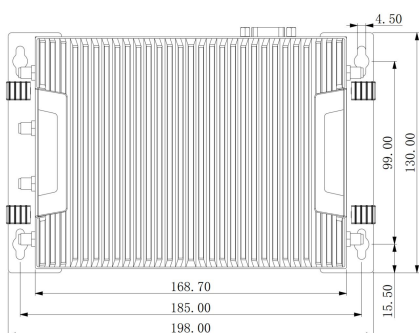


2x USB 2.0
Power button & Indicators



GPIO
COM
DC-IN
SIM
TF
DB9 COM
HDMI
DP
Dual GbE
USB 3.0
USB 2.0
Audio

Dimensions



System	AI Platform	Rockchip RK3588	Rockchip RK3588 with AI accelerator
	AI Performance	6 TOPS (INT8)	Up to 14~32 TOPS (INT8)
	GPU	Arm Mali-G610 MP4, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.2, Vulkan 1.2	
	CPU	Quad core Arm Cortex-A76 + Quad core Arm Cortex-A55 up to 2.4 GHz	
	Neural Network Acceleration	Triple core NPU for INT4/INT8/INT16/FP16 hybrid operation Supports model conversion from TensorFlow, Pytorch, Caffe, ONNX, MXNet etc.	
	HW Video Codec	8K60 H.265/VP9 Decoder, supports up to 32x 1080p30 video decode streams 8K30 H.265/H.264 Encoder, supports up to 16x 1080p30 video encode streams	
	Memory	On-board 4GB/8GB LPDDR4X	
	Storage & Expansion	On-board 32GB/64GB eMMC 5.1 for OS 1x M.2 2280 (PCIe x4) for NVMe SSD or AI accelerator 1x Micro SD slot for storage expansion	
Ethernet	Chipset	RTL8111H	
	Interface	2x RJ45, 10/100/1000 Mbps	
Wireless Connectivity	WiFi	On-board AW-NM372SM 2.4 GHz WiFi + Bluetooth 4.2	On-board AW-CM358 2.4/5 GHz Dual-band WiFi + Bluetooth 5.2
	5G/4G	1x M.2 Key B for 4G/5G with Micro SIM slot	
	LoRa	-	
	Others	1x Zigbee expansion module (optional)	
Multimedia	Display	1x HDMI 2.0, 1x DP 1.4, supports dual display	
	Audio	1x 3.5mm Combo Jack	
I/O	USB	1x USB 3.0 Type-A, 3x USB 2.0 Type-A 2x USB 2.0 internal headers for security keys	
	Serial Port	1x 10-pin Phoenix connector (1x RS-232+1x RS-485) 1x DB9 RS-232/485 with CTS/RTS 1x internal header for Zigbee	
	CAN	-	
	GPIO	1x 10-pin Phoenix connector (4-in/4-out)	
Other Features	Watchdog	Watchdog Timer & power on/off management	
	Real Time Clock	On-board RTC chip, battery-backed	
	Security	On-board Z32H330TC TPM 2.0 module	
Power	Power Input	12V DC-IN	
	Interface	4-pin aviation connector	
	System Ctrl & Monitoring	1x Power button, 1x Recovery button 1x Buzzer for alarm & diagnostics, 4x LEDs for power & wireless	
Mechanical	Dimensions	187mm x 131mm x 54mm	
Software	OS Support	Android 12, Debian 11, Ubuntu 18.04/20.04, OpenHarmony 4.0/4.1	
Environment	Operating Temp.	0~50°C	
	Storage Temp.	-20~70°C	
	Humidity	10%~90% RH, non-condensing	
	Certifications	CCC	

Part Number	SoC	Memory	Flash	Wireless	LAN	USB	COM	GPIO	Operating Temp.
JEA-E088-BOH22	RK3588	8GB	64GB	2.4/5G WiFi + BT 5.2	2	4	3	8	0~50°C
JEA-E088-BOM42	RK3588	4GB	32GB	2.4G WiFi + BT 4.2	2	4	3	8	0~50°C

■ Packing List

Article	Description
60W Power Adaptor	AC 100~240V to DC 12V/5.0A
Power Cord	CCC 10A 250 V
WiFi Antenna	2.4/5 GHz Dual band Antenna for WiFi

■ Optional Accessories

Article	Description
AI Accelerator	Cambricon MLU220 8TOPS (INT8) module
128GB NVMe SSD	FSB0C128G-C4H1400, M.2 2280 PCIe Gen3 x4 NVMe
256GB NVMe SSD	FSB0C256G-C4H1400, M.2 2280 PCIe Gen3 x4 NVMe
512GB NVMe SSD	FSB0C512G-C4H1400, M.2 2280 PCIe Gen3 x4 NVMe
1TB NVMe SSD	FSB0C001T-C4H1400, M.2 2280 PCIe Gen3 x4 NVMe
4G Expansion kit	Quectel EM05-CN LTE Cat 4 module with antenna (optional GNSS)
4G Expansion kit	Fibocom NL668-CN-22 LTE Cat 4 module with antenna
5G Expansion kit	Quectel RM500U-CN 5G Sub-6 GHz module with antenna
5G Expansion kit	Fibocom FM650-CN-23 5G Sub-6 GHz module with antenna
Zigbee Expansion kit	ZLG ZM32P2S24E Zigbee expansion board with antenna & screws
Thermal kit for AI module	Al. heatsink with thermal pad & screws
Thermal kit for 5G module	Al. heatsink with thermal pad & screws
Wall mount kit	Wall mount brackets with screws