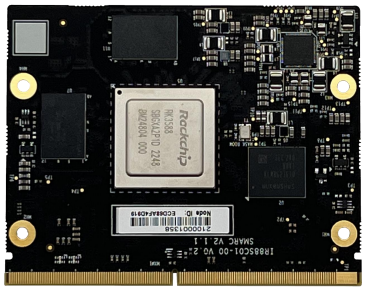
JSOM-R88C

Rockchip RK3588J SMARC Module

JSOM-R88C is an Arm-based SMARC 2.1.1 Computer-on-Module 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 offers multiple display options and various high-speed interfaces including 1x GbE, 3x PCIe, 1x SATA, 4x USB, 4x UART, 2x CAN. JSOM-R88C can deliver best-in-class graphics performance and AI capabilities, ideal for edge computing and edge AI applications.

JSOM-R88C is paired with the JSOM-SC211 SMARC 2.1.1 development board for faster end-product peripheral integration and time-to-market, offered along with carrier board design support documents and Android/Linux SDK.

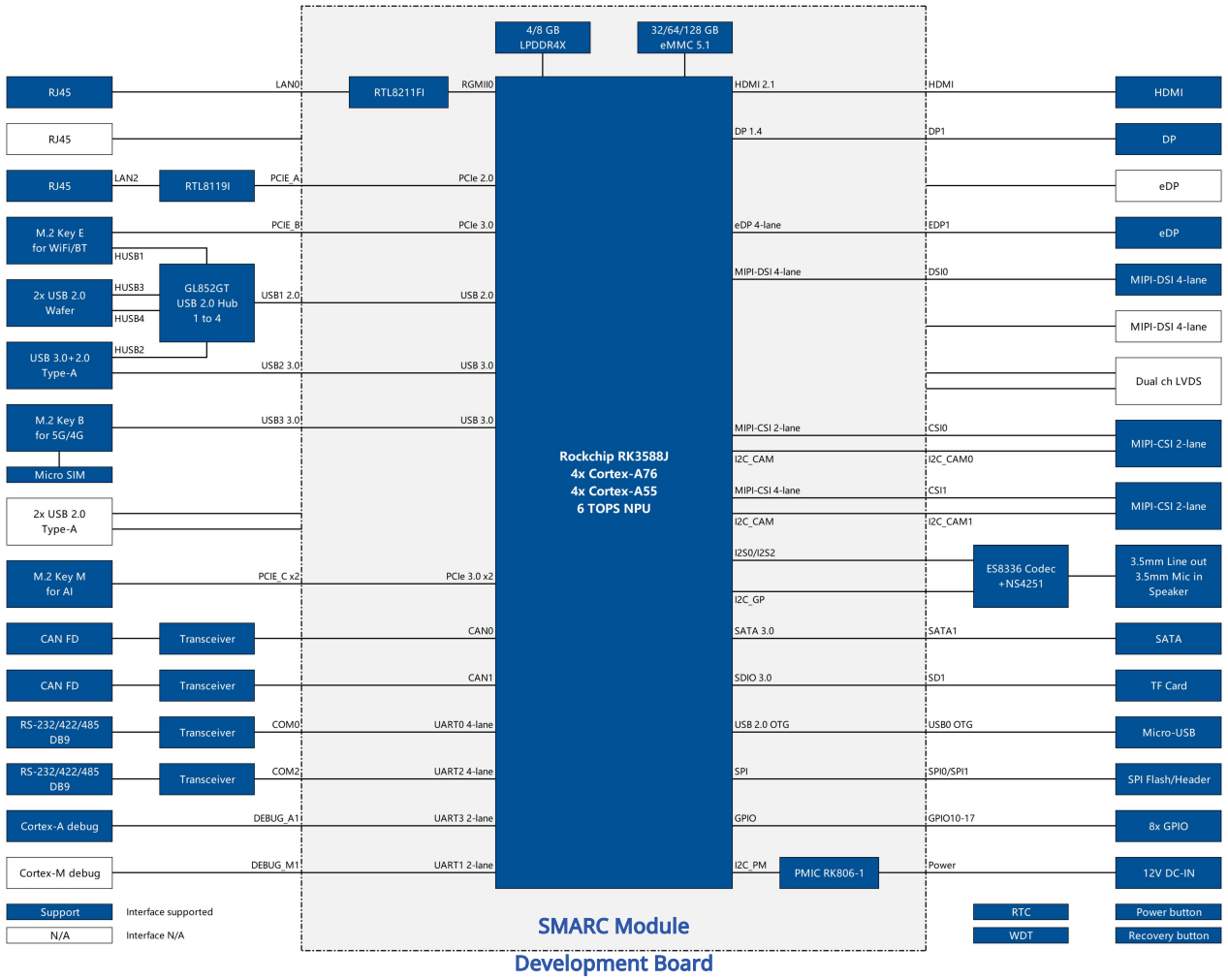


- Industrial-grade Rockchip RK3588J SoC
- 4x Cortex-A76 + 4x Cortex-A55 + Mali-G610 GPU + 6 TOPS NPU
- Supoorts multiple deep learning frameworks
- On-board 4/8GB LPDDR4X + 32/64/128GB eMMC
- Multimedia: 1x HDMI, 1x DP, 1x eDP, 1x MIPI-DSI, 2x MIPI-CSI
- I/O: 1x GbE, 3x PCIe, 1x SATA, 4x USB, 4x UART, 2x CAN
- Supports 0~60℃/-40~85℃ operating temperature

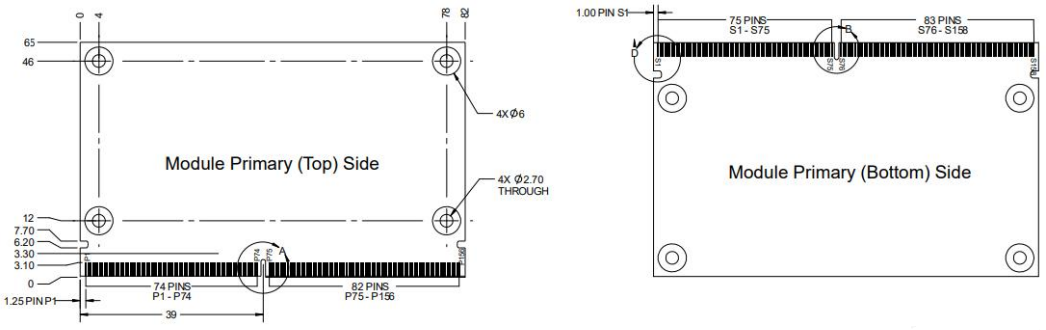
01 Specifications

CPU	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)
NPU	6 TOPS Neural Network performance
GPU	Arm Mali-G610 MP4, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.2, Vulkan 1.2
H/W Video Codec	H.265/H.264/VP9/AV1/AVS2 Decoder up to 8K60, H.265/H.264 Encoder up to 8K30
Memory	On-board 4GB/8GB LPDDR4X
Flash Memory	On-board 32GB/64GB/128GB eMMC 5.1 for OS
Ethernet	1x 10/100/1000 Mbps
Display	1x HDMI 2.1 up to 4K60 1x DP 1.4 up to 4K60 1x 4-lane eDP 1.3 1x 4-lane MIPI-DSI Triple independent display or Quad identical display support
Video Input	1x 4-lane MIPI-CSI, 1x 2-lane MIPI-CSI
Audio	2x I2S
PCIe	2x PCIe 3.0 (1x 2-lane, 1x 1-lane), 1x PCIe 2.0 1-lane
SATA	1x SATA 3.0
USB	2x USB 3.0 Host, 1x USB 2.0 Host, 1x USB 2.0 OTG/Host
Serial Port	2x 4-wire UART, 2x 2-wire UART for debug
Other I/Os	1x SDIO (4 bit, for SD cards), 2x CAN FD, 2x SPI, 5x I2C, 14x GPIO
Board Features	Watchdog Timer, RTC
Power Supply	DC 5V, supports 3.6~5.25V operation from Lithium-ion cells
Form Factor	SMARC 2.1.1 314-pin MXM Connector, 82mm x 65mm
OS Support	Debian 11, Ubuntu 20.04, Android 12
Boot Options	eMMC
Operating Conditions	0~60℃/-20~70℃/-40~85℃, 10%~90% RH non-condensing
Storage Conditions	-40~85℃, 5%~90% RH non-condensing

02 Block Diagram



03 Dimensions



04 Order Information

Part Number	SoC	Memory	Flash	GbE	PCIe	SATA	USB	UART	CAN	Operating Temp.
JSOM-R88C-AOX01	RK3588J	8GB	128GB	1	3	1	4	4	2	-40~85℃
JSOM-R88C-AOH01	RK3588J	8GB	64GB	1	3	1	4	4	2	-40~85℃
JSOM-R88C-AOM01	RK3588J	8GB	32GB	1	3	1	4	4	2	-40~85℃
JSOM-R88C-BOM01	RK3588	8GB	32GB	1	3	1	4	4	2	0~60℃