RM-N95

AI Edge Board
Wide-Temperature SMARC™ 2.1.1 Module with Six Cortex-A55/Cortex-M33/Cortex-M7 Processor

16GB eMMC
i.MX 95
8GB LPDDR5

Preliminary

Features

- 6x Cortex-A55 / 1x Cortex-M33 / 1x Cortex-M7 processors
- 8GB LPDDR5 6400 MT/s on board (option: 4GB or 16GB)
- 16GB eMMC on board (upgradeable to 256GB)
- NPU with 2.0 TOPS performance
- MIPI-DSI / LVDS / HDMI
- 10 GbE support
- Validated on Yocto 5
- Wide-range operating temperature (-40°C ~ 85°C)

Specifications

Form Factor	SMARC™ 2.1 Module
Dimensions	82mm x 50mm (3.2 x 2)
CPU Socket	N/A
CPU Type	NXP i.MX95 with Six Cortex-A55 cores (up to 2.0GHz)
PCH	N/A
Memory	System memory: 3GB LPDDR4 on board (option: 4/8GB) Data Memory: 16GB eMMC on board (up to 256GB)
BIOS	N/A
Watchdog Timer	1~6553s, power on/off 4s
H/W Monitor	N/A
Storage Device Interface	uSDHC (eMMC/SD)
Graphics	Arm Mali-G310 V2 GPU 3D GPU OpenGL® ES 3.2 Vulkan® 1.3 OpenCL 3.0
Display	1x 4-lane MIPI-DSI (4kp30 or 3840 x 1440p60, BOM selectable) 1x 8-lane or 2x 4-lane LVDS (up to 1080p or 1920 x 1200 or dual 720P) 1x HDMI interface (up to 4kp30 or 3840 x 1440p60)
Image Capture Interface	1x MIPI CSI-2 2-lane (BOM Optional) 1x MIPI CSI-2 4-lane
Video Codec	Decoder: H.265, H.264, 4Kp30 Encoder: H.265, H.264, 4Kp30
I/O Chipset	NXP Cortex™ A55 i.MX95 Six Cores 2.0 GHz Industrial Grade Support of 64-bit Arm® v8.2 architecture Cortex®-M7 CPU operating up to 800 MHz Cortex®-M33 CPU operating up to 333 MHz
External I/O	N/A
Internal I/O	1x 10 GbE Ethernet 2x 10/100/1000 Mbps Ethernet 1x USB 3.0 Type-C with PHY 1x USB 2.0 with PHY 1x 4-bit high-speed SDIO 2x 4-wire UART and 2x 2-wire UART 14x GPIO 2x I²S 4x I²C 1x SPI interface 1x XSPI interface 2x PCIe 3.0 x1 lanes 2x CAN FD
Expansion IO	N/A
TPM	Yes (Discrete TPM 2.0)

Others	RTC: Yes 1x Green LED for power on/off
Power Consumption	9.60 W
Operating Temperature	-40°C to +85°C (-40°F~+185°F) Industrial grade, with heat-sink
Storage Temperature	-40°C to +85°C (-40°F~+185°F)
Relative Humidity	0%~90% (non-condensing@60°C)
OS Support	Yocto5 Other OS (by request)
Certification	CE/ FCC Class-B