



## Features

- NXP Arm® i.MX 95 with Six Cortex-A55 / Cortex-M33 / Cortex-M7 Processor
- 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

|                          |                                                                                                                                                                                                                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                      | NXP i.MX95 with Six Cortex-A55 cores (up to 2.0GHz)                                                                                                                                                                                                                                      |
| PCH                      | N/A                                                                                                                                                                                                                                                                                      |
| Memory                   | System memory: 8GB LPDDR5 6400 MT/s on board (option: 4GB or 16GB)<br>Data memory: 16GB eMMC on board (upgradeable to 256GB)                                                                                                                                                             |
| BIOS                     | N/A                                                                                                                                                                                                                                                                                      |
| Watchdog Timer           | 1~6553s, power on/off 4s                                                                                                                                                                                                                                                                 |
| H/W Monitor              | N/A                                                                                                                                                                                                                                                                                      |
| Storage Device Interface | uSDHC (eMMC/SD)                                                                                                                                                                                                                                                                          |
| Expansion Slots          | SMARC connector to carrier board                                                                                                                                                                                                                                                         |
| Graphics Controller      | Arm Mali-G310 V2 GPU (3D GPU)<br>OpenGL ES 3.2, Vulkan 1.3, OpenCL 3.0                                                                                                                                                                                                                   |
| Video Output             | 1x 4-lane MIPI-DSI (4Kp30 or 3840 x 1440p60, BOM selectable)<br>1x 8-lane or 2x 4-lane LVDS (up to 1080p or 1920 x 1200 or dual 720P)<br>1x HDMI (up to 4Kp30 or 3840 x 1440p60)                                                                                                         |
| Ethernet                 | 1x 10 GbE Ethernet<br>2x 10/100/1000 Mbps Ethernet                                                                                                                                                                                                                                       |
| I/O Chipset              | NXP Cortex™ A55 i.MX95 Six Cores 2.0 GHz Industrial Grade Support of 64-bit Arm® v8.2 architecture<br>Cortex®-M7 CPU operating up to 800 MHz<br>Cortex®-M33 CPU operating up to 333 MHz                                                                                                  |
| Serial Port              | 2x 4-wire UART, 2x 2-wire UART                                                                                                                                                                                                                                                           |
| USB 2.0                  | 1x USB 2.0 with PHY                                                                                                                                                                                                                                                                      |
| USB 3.X                  | 1x USB 3.0 Type-C with PHY                                                                                                                                                                                                                                                               |
| Serial ATA               | N/A                                                                                                                                                                                                                                                                                      |
| Audio                    | 2x I²S                                                                                                                                                                                                                                                                                   |
| TPM                      | Yes (Discrete TPM 2.0)                                                                                                                                                                                                                                                                   |
| Others                   | RTC: Yes; 1x Green LED (power on/off)<br>NPU: 2.0 TOPS<br>14x GPIO, 4x I²C, 1x SPI, 1x XSPI<br>2x PCIe 3.0 x1 lanes, 2x CAN FD, 1x 4-bit high-speed SDIO<br>Image capture: 1x MIPI CSI-2 4-lane, 1x MIPI CSI-2 2-lane (BOM optional)<br>Video codec: H.265 / H.264 4Kp30 decode & encode |
| Dimensions (L X W)       | 82mm x 50mm (3.2" x 2")                                                                                                                                                                                                                                                                  |
| Power Consumption        | 9.60 W                                                                                                                                                                                                                                                                                   |

|                       |                                                                  |
|-----------------------|------------------------------------------------------------------|
| Operating Temperature | -40°C ~ +85°C (-40°F ~ +185°F), industrial grade, with heat-sink |
| Storage Temperature   | -40°C ~ +85°C (-40°F ~ +185°F)                                   |
| Relative Humidity     | 0% ~ 90% (non-condensing @60°C)                                  |

## Ordering Information

|        |                                                                                                              |
|--------|--------------------------------------------------------------------------------------------------------------|
| RM-N95 | NXP i.MX 95 Six Cortex-A55 processor (up to 2.0GHz), 8GB LPDDR5, 16GB eMMC, -40°C~85°C operating temperature |
|--------|--------------------------------------------------------------------------------------------------------------|

## Dimensions and Drawing

