

# SOM-M8370 SOM-M8390

## Embedded SMARC SOM



SMARC  
module

MEDIATEK

## Overview

The SERA SOM-M8370/SOM-M8390 is a SMARC module powered by the MediaTek Genio 510/700 SoC with 2x Arm Cortex-A78 and 4x/6x Cortex-A55 cores and up to 2.8/4.0 TOPS APU.

The module incorporates a spate of IoT technologies, such as on-device artificial intelligence (AI) capabilities and support for up to 3 cameras, while delivering a low power envelope, making it the ideal solution for robotic and drone applications across various sectors, including consumer, enterprise, defense, industrial, logistics, and more.

Besides the Genio 700 platform is pin to pin compatible with Genio 510 .To give you more high-end APU system options.

## Features

- Genio 510: 2x ARM Cortex-A78@2.0GHz + 4x ARM Cortex-A55@2.0GHz.
- Genio 700: 2x ARM Cortex-A78@2.2GHz + 6x ARM Cortex-A55@2.0GHz.
- Genio 510: 2.8 TOPS APU system.
- Genio 700: 4.0 TOPS APU system
- SMARC Revision 2.1 compliant.
- Up to 8GB LPDDR4X.
- DSI up to 1080P.
- HDMI and DP up to 4K/60Hz
- 1x onboard eMMC5.1 up to 256 GB
- Supports two GbE ports
- Supports CSI 2x2 Lanes/1x4 Lanes interfaces
- 2xUSB 3.0/3xUSB 2.0 interfaces
- Support Linux Yocto/Android
- A high-performance multi-core AI processor with dedicated visual processing engine for a wide variety of computer vision applications, including facial recognition, object/people identification, collision warning, driver monitoring, gesture and posture detection, image segmentation
- Rich IO for peripherals, including scanners, card readers, sensors, factory equipment, network connectivity, etc

## Specification

### Embedded SMARC SOM

| Interface        | Specifications | Features                                                                                                                                               |
|------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| System           | CPU            | Genio 510: ARM Cortex-A78@2.0GHz x 2 + ARM Cortex-A55@2.0GHz x 4<br>Genio 700: ARM Cortex-A78@2.2GHz x 2 + ARM Cortex-A55@2.0GHz x 6                   |
|                  | NPU            | Genio 510: Dual AI processing system (MediaTek DLA + VP6), up to 2.8 TOPS<br>Genio 700: Dual AI processing system (MediaTek DLA + VP6), up to 4.0 TOPS |
|                  | RAM            | 8GB LPDDR4X                                                                                                                                            |
|                  | Storage        | 32GB eMMC                                                                                                                                              |
| Display          | GPU            | ARM Mali-G57MC2                                                                                                                                        |
|                  | HDMI           | HDMI 2.0 4K60fps                                                                                                                                       |
|                  | DisplayPort    | DisplayPort 1.2                                                                                                                                        |
|                  | MIPI           | MIPI-DSI 4-Lane                                                                                                                                        |
|                  | LVDS           | Dual Channel LVDS                                                                                                                                      |
| Camera           | CSI            | 2 MIPI-CSI 4 Lane or 1xMIPI-CSI 4 Lane + 2xMIPI-CSI 2 Lane                                                                                             |
| Video            | Encode         | 4K@30fps 8-bit (H.265/H.264)                                                                                                                           |
|                  | Decode         | 4K@60fps 8/10-bit (H.265/H.264/VP9/AV1), FHD@60fps (VP8/MP2/MP4)                                                                                       |
| Connectivity     | Ethernet       | 2x10/100/1000 Mbit/s                                                                                                                                   |
|                  | Wi-Fi          | 2x2 Wi-Fi 5                                                                                                                                            |
|                  | Bluetooth      | Bluetooth 5.2                                                                                                                                          |
| Extension Busses | USB            | 2xUSB 3.0 / 3xUSB 2.0                                                                                                                                  |
|                  | UART           | 4xSerial UART                                                                                                                                          |
|                  | CANBUS         | 1xCAN2.0B                                                                                                                                              |
|                  | I2S            | 1xI2S                                                                                                                                                  |
|                  | I2C            | 2xI2C                                                                                                                                                  |
|                  | SDIO           | 1 x 4-Lan SDIO                                                                                                                                         |
|                  | SPI            | 2xSPI                                                                                                                                                  |
|                  | GPIO           | 14xGPIO                                                                                                                                                |
|                  | PCIe           | 1xPCIe 1 Lane Gen2                                                                                                                                     |
| Power            | DC             | 5VDC                                                                                                                                                   |
| Form Factor      | SMARC          | SMART Short Size                                                                                                                                       |
|                  | Dimension      | 82 x 50 x 1.2mm                                                                                                                                        |
| Operation System | Linux          | Yocto Linux                                                                                                                                            |
|                  |                | Ubuntu                                                                                                                                                 |
|                  |                | Android                                                                                                                                                |

*\*Specifications are subject to change without notice.*