# VAR-SOM-MX8

Advanced processing power and high-end multimedia

from $134

Based on NXP i.MX 8QuadMax/QuadPlus/DualMax, the VAR-SOM-MX8 carries Dual 1.6GHz ARM Cortex-A72, Quad 1.2GHz Cortex-A53 and 2x 266MHz real-time Cortex-M4F co-processor. The SoM introduces advanced processing power, high-end graphics, UltraHD 4K video capabilities and a variety of high-speed interfaces and connectivity options like certified dual-band Wi-Fi 802.11ac/a/b/g/n, BT/BLE, dual GbE, dual USB3, PCIe, CAN FD, UltraHD 4K display support, high-quality audio, high performance 2D/3D graphics acceleration and camera inputs.

The VAR-SOM-MX8 is a member of Variscite's pin2pin compatible family, which also includes the VAR-SOM-MX8X, VAR-SOM-MX6, VAR-SOM-SOLO/DUAL and VAR-SOM-6UL. This compatibility allows Variscite's
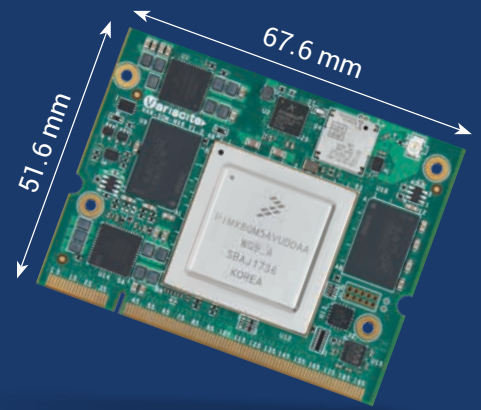
customers to use the same system design with full scalability, from entry level – i.MX 6UL/ULL, through i.MX 6 Solo/DualLlite/Dual/Quad/QuadPlus, i.MX 8X and up to iMX8 QuadMax/QuadPlus/DualMax.

The Symphony carrier board complements an attractive full reference kit of the VAR-SOM-MX8, used by Variscite's customers for evaluation, development and mass production.

67.6 mm
51.6 mm

Main Features

NXP i.MX 8 processor
- 2 x 1.6GHz ARM Cortex™-A72 plus 4 x 1.2GHz ARM Cortex™-A53
- Real-time 2x ARM Cortex™-M4F
- Neon Media Processor Engine (MPE)
- Internal HiFi 4 DSP
- 2 x GC7000XSVX high performance GPU

Memory and Storage:
- Up to 8GB LPDDR4 memory, up to 64GB eMMC storage

Display and video Support
- UltraHD 4K Display
- 4Kp60 HEVC/H.265/H.264 decode, FHD encode
- MIPI DSI 1920X1080 at 60Hz
- HDMI 2.0a/eDP/DP
- Touch screen
- Dual channel LVDS display 1920X1080 at 60Hz

Networking
- 2x 10/100/1000Mbps Ethernet
- Certified WiFi 802.11ac/a/b/g/n and Bluetooth 5.2/BLE

High Speed interfaces
- Dual USB 3.0/2.0
- PCIe

Camera and video input
- Dual MIPI CSI2 serial input

Audio
- Digital audio (SAI)
- Analog, digital microphone (stereo)
- Headphone out, line-in

Other Interfaces:
- CAN, I2C, SPI, PWM, JTAG, UART, SD/MMC, GPIO, timers

OS Support
- Linux
- Android

Power
- Single 3.3V

Dimensions (W x L x H):
- 67.6 mm x 51.6 mm x 5.0 mm

-40 to 85ºC industrial temperature support

Low Power consumption
- Optimized power consumption in both operational and suspend modes

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Complementing the VAR-SOM-MX8

VAR-SOM-MX8 Evaluation Kit

The VAR-DVK-MX8 allows full performance and capability evaluation, serving as an evaluation, development and production platform for hardware and software teams.

Evaluation Kit content

- Symphony-Board populated with VAR-SOM-MX8
- 7" LCD + capacitive touch panel
- Power supply and communication cables
- Documentation and design package

Symphony-Board

Symphony-Board - Supporting VAR-SOM-MX8

The Symphony carrier board ensures a scalable and simplified development and reference board to achieve a short time-to-market for customer's designs and end-prwoducts.

Display Support
- DSI, dual LVDS display, HDMI / DP / eDP

Touch Panel
- Capacitive touch (6-pin FFC/FPC)
- Resistive touch (4-pin FFC/FPC)

High speed interfaces
- 2x USB 3.0/2.0 ports
- 2x 10/100/1000Mbps Ethernet RJ45
- mPCIe

Storage
- SD/SDIO/MMC card socket

Audio
- Headphone
- Line-in
- Digital mic

Camera
- MIPI CSI serial (extension connector)

Additional expansion Connectors
- SPI, GPIO
- UART, I2C, CAN/CAN-FD
- PWM
- SAI

Debug
- Micro USB

RTC backup battery
- CR1225 coin battery socket

Power
- 12V DC input

Size
- 16.9cm x 8.9cm

About Variscite

Variscite is a leading System on Modules (SoM) and Single-Board-Computer (SBC) design and manufacture company. A trusted provider of development and consulting services for a variety of embedded platforms, Variscite transforms clients' visions into successful products.

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