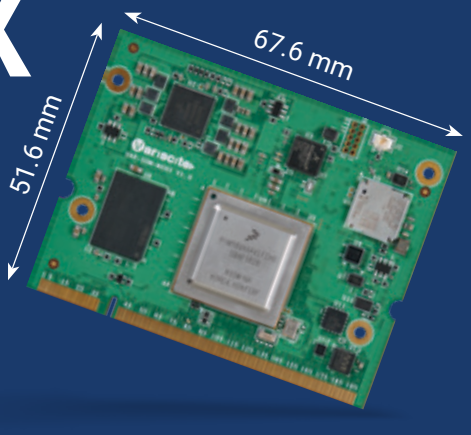
VAR-SOM-MX8X



Maximized safety and reliability in a power-optimized design

The VAR-SOM-MX8X supports NXP's i.MX 8X Quad 1.2GHz Cortex™-A35 processor plus Cortex-M4F real-time co-processor and offers built-in safety features, highly integrated multimedia support and efficient power/performance architecture.

VAR-SOM-MX8X is a pin2pin System on Module, compatible with the VAR-SOM-MX8, VAR-SOM-MX6, and VAR-SOM-SOLO/DUAL. It offers Variscite's customers a high level of scalability, extended lifetime availability and reduced development time, cost and risk.

This highly integrated SoM is designed to support a wide range of high-reliability, power-efficient applications, from industrial automation & control to defense, medical, telematics, building control, failover displays/HMI and robotics. The SoM multimedia features and interfaces options include Vivante GC7000Lite GPU for 2D and 3D graphics acceleration, 4K H.265 Decode, 1080p H.264 Encode/Decode, Camera Interfaces, DSI / LVDS, Parallel LCD, dual GbE, certified Wi-Fi/BT, CAN/CAN-FD, USB3 and serial interfaces.

The Symphony carrier board complements an attractive full reference kit of the VAR-SOM-MX8X, used by Variscite's customers for evaluation, development and mass production.

Main Features

NXP i.MX 8X processor
- 4 x 1.2GHz ARM Cortex™-A35
- Real-time ARM Cortex™-M4F
- Neon Media Processor Engine (MPE)
- Internal HiFi 4 DSP
- GC7000Lite high performance GPU

Memory and Storage:
- Up to 4GB LPDDR4 memory, up to 64GB eMMC storage

Display and video Support
- 24-bit parallel LCD up to 720p60
- 4K H.265 Decode, 1080p H.264 Encode/Decode
- MIPI DSI 1920X1080 at 60Hz
- 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
- 3x CAN

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

Camera
- 1x MIPI-CSI2, 1x parallel CSI

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

OS Support
- Linux
- Android

Power
- Single 3.V

Dimensions (W x L x H):
- 67.6 mm x 51.6 mm x 5.2 mm

-40 to 85°C industrial temperature support

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

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Complementing the VAR-SOM-MX8X

VAR-SOM-MX8X Evaluation Kit

The VAR-DVK-MX8X 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-MX8X
- 7” LCD + capacitive touch panel
- Power supply and communication cables
- Documentation and design package

Symphony-Board

Symphony-Board - Supporting VAR-SOM-MX8X

The Symphony-Board ensures a scalable and simplified development and reference board to achieve a short time-to-market for customer’s designs and end-products.

Display Support
- DSI, dual LVDS display

Audio
- Headphone
- Line-in
- Digital mic
- High speed interfaces
- 2x USB 3.0/2.0 ports
- 2x 10/100/1000Mbps Ethernet RJ45
- mPCIe

Storage
- SD/SDIO/MMC card socket

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

Camera
- MIPI CSI serial, 1x parallel CSI (extension connector)

Additional expansion Connectors
- SPI, GPIO
- UART, I2C, CAN
- 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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