SPEAR-MX8
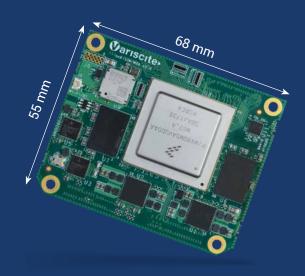
The SPEAR-MX8 is a highly scalable System-on-Module provides an ideal solution for embedded products requiring advanced performance processing, high-end graphic, UltraHD video capabilities and a variety of high-speed interfaces and connectivity options.

The SPEAR-MX8 is based on NXP i.MX 8QuadMax with Dual 1.6GHz ARM Cortex-A72, Quad 1.2GHz Cortex-A53 and 2x 266MHz Real-time Cortex-M4F co-processor. An impressive multimedia performance spec encompasses UltraHD 4K video and display support, high-quality audio, a high performance 2D/3D graphics acceleration and camera/HDMI inputs.

The SoM includes a variety of interfaces and connectivity options: Certified dual-band Wi-Fi 802.11ac/a/b/g/n, BT/BLE, dual GbE, dual USB3, PCIe, SATA III, CAN, SPI and UART.

The VAR-SP8CustomBoard carrier board complements an attractive full reference kit of the SPEAR-MX8, used by Variscite's customers for evaluation, development and mass production.

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 1080p60
- HDMI 2.0a/eDP/DP
- Touch screen
- Dual channel LVDS display 1080p60

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

High Speed interfaces
- Dual USB 3.0/2.0 + HSIC port
- PCIe
- SATA III

Audio
- Digital audio (SAI, SPDIF)
- Analog, Digital microphone (stereo)
- Headphone out, Line-in

Camera and video input
- Dual MIPI CSI2 serial input
- HDMI input

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

OS Support
- Linux
- Android

Power
- Single 3.35-4.5V

Dimensions (W x L x H):
- 55.0 mm x 68.0 mm x 4.7 mm

-40 to 85°C industrial temperature support

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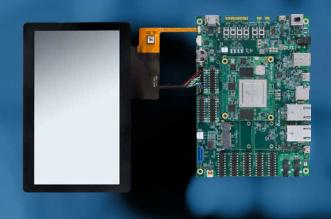- Optimized power consumption in both operational and suspend modes

Complementing the SPEAR-MX8

SPEAR-MX8 Evaluation Kit

The VAR-DVK-SP8 allows full performance and capability evaluation, serving as an evaluation, development and production platform for hardware and software teams.

Evaluation Kit content

- VAR-SP8CustomBoard populated with SPEAR-MX8
- 7" LCD + capacitive touch panel
- Power supply and communication cables
- Documentation and design package

VAR-SP8CustomBoard

VAR-SP8CustomBoard - Supporting SPEAR-MX8

The VAR-SP8CustomBoard 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, HDMI/DisplayPort

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

Audio
- Headphone
- Line-in
- Digital mic

Storage
- SD/SDIO/MMC card socket

High speed interfaces
- 4x USB 3.0/2.0 ports
- 2x 10/100/1000Mbps Ethernet RJ45
- mPCIe
- SATA III

Camera
- 2x MIPI CSI serial (extension connector)

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

Debug
- Micro USB

RTC backup battery
- CR1225 coin battery socket

Power
- 5V DC input

Size
- 12.0cm x 17.0cm

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.

For more information contact:
sales@variscite.com