DART-MX8M-PLUS

The future of smart embedded systems with AI/ML capabilities

from $62

The DART-MX8M-PLUS transforms the future of smart embedded systems. Delivered in a compact form factor of 55x30mm, the DART-MX8M-PLUS is based on a 1.8GHz Quad Cortex™-A53 NXP i.MX 8M Plus processor with 800MHz Cortex™-M7 Real-time co-processor.

This is the first i.MX processor with an Artificial Intelligence and Machine Learning accelerators, featuring an integrated Neural Processing Unit (NPU) and an intelligent vision processing system based on Image Signal Processor (ISP) and camera interfaces. The SoM includes advanced multimedia features, such as: H.265/264 HD video encode and decode engines, advanced 2D/3D graphic acceleration, HDMI, LVDS, MIPI-DSI display, 2x CAN-FD, and dual cameras inputs.
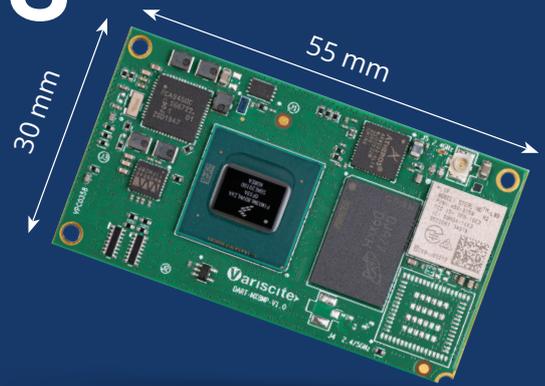
The DART-MX8M-PLUS provides various interfaces and connectivity options: certified dual-band Wi-Fi 802.11ac/a/b/g/n, BT/BLE, dual GbE, dual USB3, PCIe, SPI, and UART.

The SoM is a member of the DART Pin2Pin family, which offers a wide scalability range; from the i.MX8M Mini platform, up to the i.MX8M Plus.

The VAR-DT8MCustomBoard carrier board complements an attractive, full-reference kit of the DART-MX8M-PLUS, used by Variscite's customers for evaluation, development, and mass production.

Main Features

NXP i.MX 8M Plus
- 1.8GHz Quad-core ARM Cortex-A53
- Real-time 800MHz Cortex-M7 co-processor
- Neon Media Processor Engine (MPE)
- AI/ML, GPU and video acceleration
- Up to 8GB LPDDR4 memory, up to 128GB eMMC storage

Display and Video Support
- HD display
- 1080p60 HEVC/H.265/H.264 decode, 1080p60 H.265/H.264 encode
- MIPI DSI 1080p60
- HDMI 2.0a
- Capacitive touch screen
- Dual-channel LVDS display

Networking
- 2x10/100/1000Mbps ethernet
- Certified Wi-Fi 802.11ac/a/b/g/n
- Bluetooth/BLE 5.2
- 2 x CAN-FD

High-Speed interfaces
- 1 x PCIe
- 2 x USB 3.0 OTG

Camera
- Dual MIPI CSI2 serial input

Audio
- Digital audio (SAI, SPDIF, RX TX, PDM 8CH)
- Analog, digital microphone (stereo)
- Headphone-out, line-in

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

OS Support
- Linux
- Android

Power
- Single 3.45-5V

Dimensions (W x L x H)
- 55.0 mm x 30.0 mm x 4.44 mm

-40 to 85ºC industrial temperature support

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

Complementing the DART-MX8M-PLUS

DART-MX8M-PLUS Evaluation Kit

The VAR-DVK-MX8M-PLUS allows full performance and capability evaluation, serving as evaluation, development, and production platform for hardware and software teams.

Evaluation kit content

- VAR-DT8MCustomBoard populated with DART-MX8M-PLUS
- 7" LCD + capacitive touch panel
- Power supply and communication cables
- Documentation and design package
- WiFi/BT antenna

VAR-DT8MCustomBoard

VAR-DT8MCustomBoard - Supporting the DART Pin2Pin Family and optimized for the DART-MX8M-PLUS

The VAR-DT8MCustomBoard 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, eDP

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

Audio
- Headphone
- Line-in
- Digital mic

Storage
- SD/SDIO/MMC card socket

High speed interfaces
- USB 3.0/2.0 ports: 1x OTG (Type-C), 2x HOST, 1x HOST over PCIe interface
- 2 x 10/100/1000Mbps ethernet RJ45
- mPCIe

Camera (extension connector)
- 2x MIPI CSI 4-lane serial

Additional Expansion Connectors
- SPI, SPDIF, GPIO
- UART, I2C
- PWM
- SAI

Debug
- Micro USB
- JTAG connector

RTC backup battery
- CR1225 coin battery socket

Power
- 5V DC input

Size
- 15.0cm x 9.0cm

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.

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