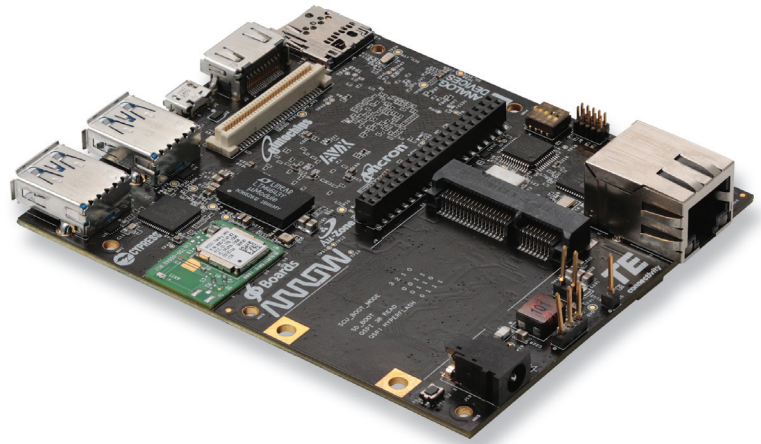


# AI-ML Board

The AI-ML Board is a single-board computer powered by the NXP i.MX 8X SoC, incorporating a quad-core 64-bit Arm-A35, dedicated GPU and VPU, 4K support, Wi-Fi, Bluetooth and a wide range of I/O.



## Do More with i.MX 8X SoC

The i.MX 8X SoC is a feature-rich system containing a quad-core, 64-bit Arm A35 processor, Vulkan GPU with four shader cores and VPU capable of decoding 4K video at 30 fps. These features alone make the AI-ML board highly capable in a wide range of applications involving video and high processor requirements, including robotics, local AI systems, monitoring and drones.

## Feel Secure with the i.MX 8X SoC

The i.MX 8X SoC boasts a wide range of security features for ensuring device integrity, making it ideal for applications involving sensitive data (such as IoT). Security features built into the i.MX 8X include HAB, SRTC, TrustZone, SHA-256, 3DES, ARC4, MD5, Tamper and Inline Enc Engine.

Connect to the World with the AI-ML When it comes to connectivity, the AI-ML demonstrates its dominance in the single-board computer market. One low-speed 40pin and one high-speed 60-pin connector allow the AI-ML to be easily expanded and connected to external circuitry and systems.

### Low-Speed Connector

- 1x UART
- 1x SPI
- 1x I2S
- 2x I2C
- 12x GPIO
- DC Power

### High-Speed Connector

- 1x 4 lane MIPI DSI
- 1x USB
- 1x 2x I2C
- 4x 4 lane MIPI CSI
- 1x SPI

## Partner Information

AVX is the premier passive supplier on these platforms and provides solutions for transient protection, decoupling and signal integrity optimization. TE Connectivity is our comprehensive connector solution provider for these platforms.

## FEATURES

- Arm A35 Quad-Core 64-bit @ 1.2 GHz
- Cortex-M4F Core
- Tensilica HiFi 4 DSP Core
- 2-GB LPDDR4 @ 1,600 MHz Industrial Temp by Micron
- 4x Vec4 Shaders with 16 Execution Units
- H.265 — up to 4K @ 30 fps Decode
- H.264 — up to 1080 @ 60 fps Encode
- HDMI Output
- Dual MIPI Display support
- Cypress' industry-leading 802.11ac Wi-Fi and Dual-Mode Bluetooth wireless connectivity
- 2 USB (2x 3.0 and 1x Micro-USB B)
- 40-Pin Low-Speed Connector
- 60-Pin High-Speed Connector
- Compact Size of 85 x 100 mm

## APPLICATIONS

- Robotics
- Home Automation
- Drones
- Wireless Monitoring
- AI Execution and Subsystems
- Automotive
- Visual Machine Learning

