



## Modalix DevKit 3.0



### Overview

The SiMa.ai Modalix DevKit 3.0 is a complete hardware and software Development Kit for evaluating and prototyping intelligent Physical AI applications using the latest Modalix System-on-Module (SoM).

Designed for rapid deployment, this kit enables seamless development, benchmarking, and proof-of-concept creation with SiMa.ai's Palette™ software. With best-in-class performance-per-watt in a compact form factor it is Ideal for industrial, robotics, vision and LLM-based applications needing real-time inferencing across computer vision, transformer models, and GenAI workloads.

The Development Kit includes a carrier board with an NVMe mass storage device and the Modalix SoM and provides a broad set of interfaces such as HDMI, USB, Ethernet, UART, I2C, SPI, NVME, GPIO, CSI Camera.

### Development Flow

#### Evaluate. Prototype. Demonstrate.

##### Evaluate

Use Palette software to compile and run models, assess performance (FPS, latency, compute utilization), and monitor system metrics.

The kit provides:

- Docker-based toolchain
- ARM cross-compiler
- Platform image build & deploy tools
- Integrated KPIs and performance feedback

##### Prototype

Developers can rapidly prototype functional pipelines using SiMa.ai's Python APIs, enabling fast bring-up of custom ML workflows directly on the hardware without complex embedded optimization.

##### Demonstrate

The DevKit supports multi-camera input via MIPI CSI-2, IP, and high-speed USB 3 allowing developers to demonstrate real-time vision AI applications via an HDMI display with minimal latency.

### Powered by Modalix MLSoC

The Modalix SoM combines the power and performance of Modalix MLSoC™ with extended peripherals, in a compact form factor designed to scale Physical AI deployments. Built on the field-proven Modalix MLSoC, with its rich peripherals and unique architecture, delivers exceptional performance for **multimodal transformers, LLMs, LMMs, and GenAI** in addition to legacy **CNN and computer vision algorithms** workloads.

The Modalix SoM offers the best-in-class performance per watt.

### What's Included

- DevKit with enclosure (Modalix SoM and Carrier Board)
- Universal power adaptor (DC 12V @ 5A)
- M.2 500GB NVMe mass storage

Universal power adaptor  
(DC 12V @ 5A)

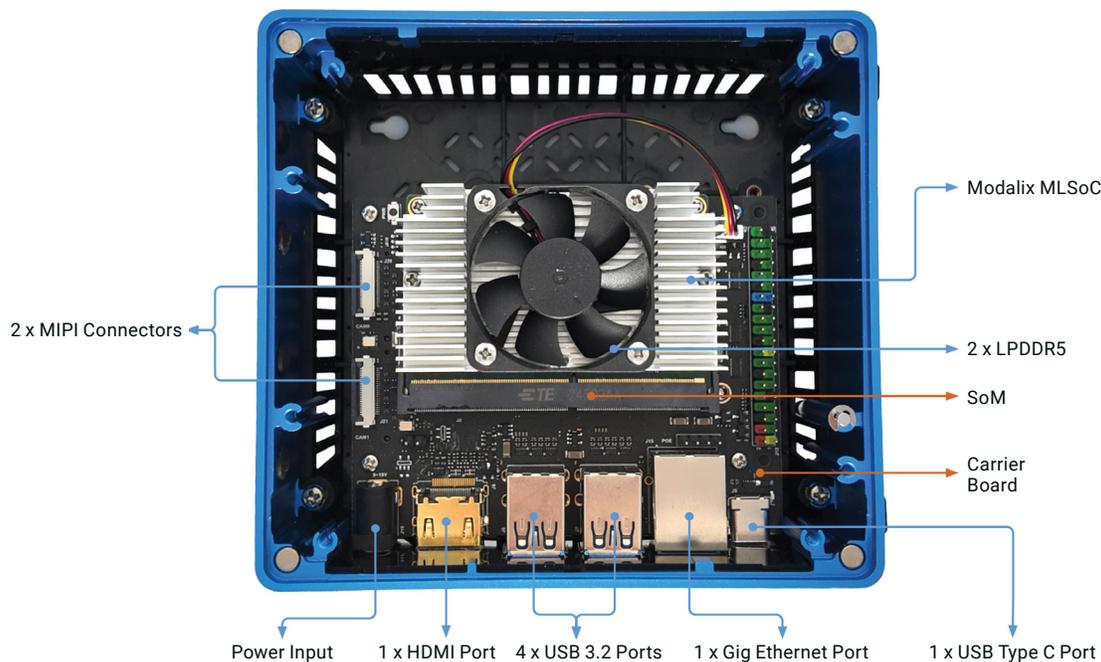


M.2 500GB SSD



## Available Interfaces

- HDMI 1.4 @ 4K
- 2 x MIPI CSI-2 Connectors
- M.2 M 4x PCIe Gen4 RC
- 4x USB 3.2
- 1x USB-C
- 1x Gigabit Ethernet
- I2C/UART/GPIO/SPI/GPIO



Subsystem	Specifications
MLSoC Modalix with ML Accelerator (MLA)	50 TOPs (BF16, INT8, INT16); supports GenAI and neural networks
Application Processor	8x Arm Cortex-A65 @1.4–1.5 GHz; 32k Dhrystone MIPS
Memory	16GB 128-bit LPDDR5, 128-bit @ 6400 Mbps
Video Codec	H.264/H.265/AV1 Decode 4K@60; H.264/H.265 Encode 4K@60
Computer Vision (CVU)	4-core Synopsys EV74 @ 1 GHz; 720 16-bit GOPS
Image Signal Processor	ARM Mali-C71 @ 1.2 GHz; supports RAW up to 24-bit, RGGGB, RCCG, RCCB, RGBIR, WDR
Storage	16GB eMMC, 64MB QSPI, 128Kb EEPROM
Advanced Security	Secure boot, encryption, key storage, user code API
Operating Temperature Range	0-35°C

## Ordering Information

### Product Description

Modalix DevKit 16GB with HDMI

### Part Number

Modalix-SoMDev-Pro-16GB-404-ABA

**Note:** The Modalix DevKit provides limited PCIe (Gen4 only) and Ethernet (1G only) functionality due to the limitations of the carrier board capabilities.



## About SiMa

SiMa.ai is a leader in Physical AI, delivering a purpose-built, software-centric platform that brings best-in-class performance, power efficiency, and ease of use to Physical AI applications. Focused on scaling Physical AI across robotics, automotive, industrial automation, aerospace & defense, smart vision, and healthcare, SiMa.ai is led by seasoned technologists and backed by top-tier investors. Headquartered in San Jose, California.

Learn more at [www.sima.ai](http://www.sima.ai).

