

The K24 Development Kit is a combination of an AMD KRIA K24 system on module (reduced feature) and an Avnet Embedded K24 IO Carrier Card with an Out-of-Box reference design, downloadable Hardware User Guide, Board Definition File (BDF), and Board-Support-Package (BSP) for engineers to design with the K24 SOM.

The K24 IO Carrier Card leverages the commercial or industrial grade AMD KRIA K24 SOM based on a custom Zynq UltraScale+ MPSoC. The K24 SOM provides an embedded processing system (PS) with tightly integrated programmable logic and a rich set of configurable I/O capabilities. The SOM hardware features include 2GB 32-bit wide, 1066 Mb/s LPDDR4 memory, 512Mb QSPI, 32GB eMMC (not included with kit), 64Kb EEPROM non-volatile memory. The IO Carrier Card also features other boot options beyond the SOM's integrated memory such as the microSD card slot or the affordable DP/eMMC HSIO expansion modules that can be purchased separately.

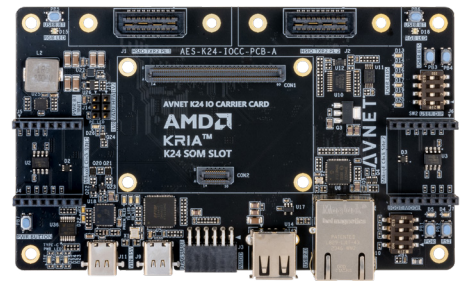
A PHY enable both 10/100/1000 Ethernet and USB 2.0 Host. A USBType-C port provides on-board JTAG/UART access. ECS crystals and an oscillator provide clocking to the K24 SOM, the on-chip real-time clock, JTAG, and communication interfaces. Power for the board is provided through USB-Type-C with connector and TDK μPOL™ power modules. A combination of slide switches, push buttons, mono- and RGB- LEDs allow user interaction with the board.

Additionally, four PS GTR transceivers, HPIO, HDIO and MIO are exposed through two Samtec HSIO expansion connectors, two Click Board™ sites and a type 1A PMOD connector. These provide access to PS and PL interfaces for added features like WiFi, NVMe SSD, AI accelerators, image, temperature, and pressure sensors as well as display port or other user needed systems.

With a Vivado-enabled board definition file and PetaLinux BSP, you will be up and running in no time! Whether you want to explore bare metal, Linux, or Vitis AI accelerators, the K24 Development Kit is a great vehicle for bringing up initial designs targeting AMD K24 SOM and provides an excellent starting point for creating your own custom carrier card.

## Features

- Kria K24 SOM Slot
- HSIO Expansion TXR2 x2
- MikroE Click Expansion Interface x2
- PMOD Type 1A PL GPIO Interface
- 10/100/1000 Ethernet with MAC ID
- USB 2.0 Type-A
- microSD Card Interface
- USB-Type-C JTAG-UART Interface
- User Slides Switches and push button I/O
- User RGB and Monochrome LEDs
- USB-Type-C Power Input (15V)
- VBATT Rechargeable Battery Solution



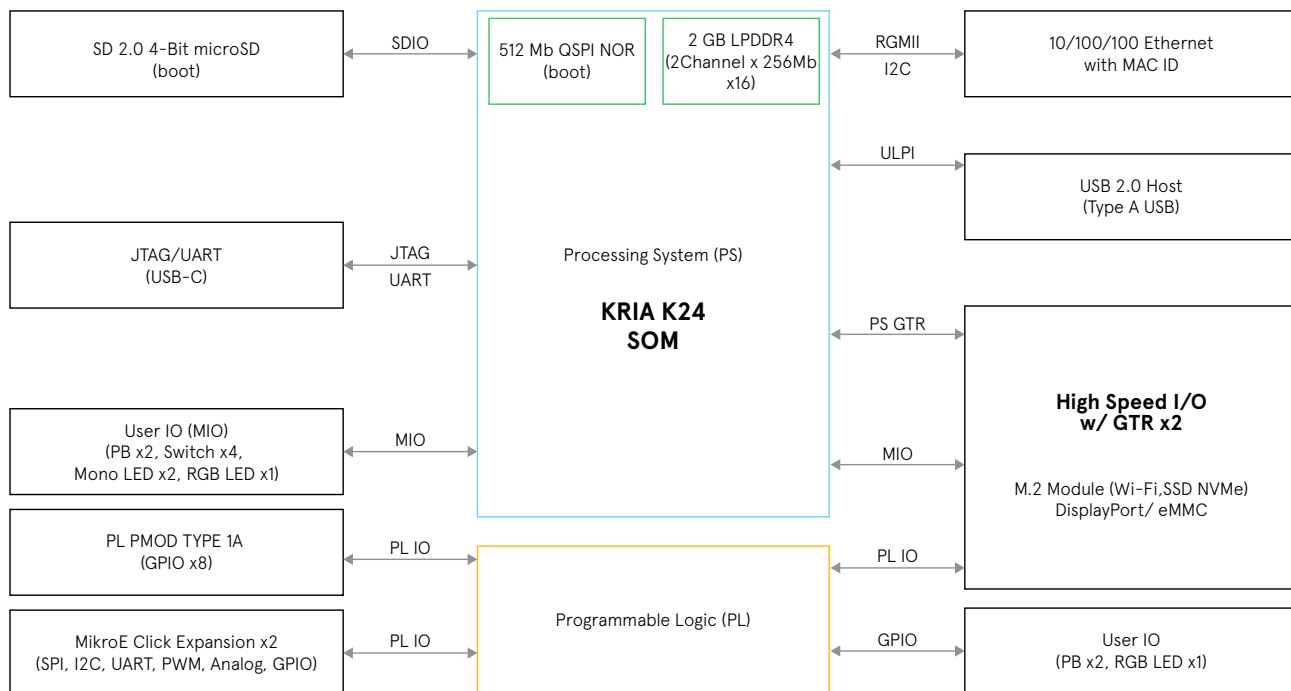
## Kit includes

- KRIA K24 (non-production)
- K24 Carrier Card
- Quick Start Card

## Target apps

- Machine Vision
- Healthcare/Medical Devices
- Ethernet Gateways
- EV Charging
- Robotics
- Factory Automation
- Industrial IoT and Smart Sensors
- Aerial Systems
- Smart Home Appliance

## Block diagram



## Featured manufacturers



## Parts

Part number	Description	For more information
AES-K24-IO-DK-G	K24 Development Kit	<a href="https://www.avnet.com/k24-dk-pdp">avnet.me/k24-dk-pdp</a>

## Related parts

Part number	Description	For more information
PSA-A45WM-U	Advantech Power Supply	<a href="#">See web page</a>
AES-ACC-DPEMMC-G	Avnet DP-eMMC High Speed I/O Module	<a href="https://www.avnet.com/dpemmc">avnet.me/dpemmc</a>
AES-ACC-HSIO-M2-G	Avnet M.2 High Speed I/O Module	<a href="https://www.avnet.com/m2-hsio-module">avnet.me/m2-hsio-module</a>

Countries available for purchase: Americas, EMEA, Asia, Japan

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