VE2302 SOM

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The VE2302 SOM provides the flexibility and versatility for developers to enable designs with the AMD Versal™ AI Edge series. This System-On-Module (SOM) is a small form factor and full-featured board based on the Versal AI Edge VE2302 device featuring 328K programmable logic cells with a Dual-core Arm® Cortex®-A72 MPCore™ and Dual-core Arm Cortex-R5F MPCore, as well as L1 and L2 cache and 256KB on-chip memory all with ECC. The board features 4GB of Micron LPDDR4 along with 32GB Micron eMMC for storage along with a non-volatile boot option in the 64MB Micron OSPI Flash. The SOM provides use of the Versal AI Edge GTYP transceivers (8) and IO pins including, HDIO (22), PMC MIO (13), LPD MIO (12), XPIO (80) and SYSMON interfaces.

The SOM provides a host of features to simplify application development with a custom carrier card. Along with the XCVE2302-1LSESFVA784 the VE2302 SOM enables Gigabit Ethernet and USB2.0 using a Microchip PHY, I2C MAC EEPROM, I2C 8-bit IO Expander, PMBus, and other interfaces through three Samtec JX connectors. ECS provides clocking to the Versal AI Edge device, the on-chip real-time clock, JTAG, and communication interfaces. Power is provided by on board regulators through 5V supply from a Carrier Card with TDK µPOL™ power modules.

Whether you want to use bare metal, Linux, or Vits AI Accelerators, using a Vivado-enabled board definition file and PetaLinux BSP will enable you to be up and running in no time!

Features

- AMD Versal AI Edge XCVE2302-1LSESFVA784
  - Dual A72 APU and Dual R5F RPU
  - 34 AI Engine–ML Tiles
  - 256KB On-chip Memory w/ECC
  - 328,720 FPGA Logic Cells
- Micron LPDDR4 SDRAM (4GB, 2x32)
- Micron OSPI Flash (256MB)
- Micron eMMC Flash (32GB)
- Gigabit Ethernet RGMII PHY
- USB 2.0 ULPI PHY
- I2C MAC EEPROM
- I2C 8-Bit I/O Expander
- 2-Channel I2C Switch/Mux
- Reference Clock
- Real Time Clock
- Carrier Card JTAG and UART debug interface
- TDK µPOL™ Voltage Regulators
- 3 Micro-Header Connectors JX1/JX2/JX3 (4x40-pin)
- Connections to the Carrier Card
- 80 User XPIO Pins
- 22 User HDIO Pins
- 12 User LPD MIO Pins
- 13 User PMC MIO Pins
- 8 GTYP Transceiver
- 8 GTYP Reference Clock Inputs
- SYSMON interface
- USB 2.0 Connector Interface
- Gigabit Ethernet RJ45 Connector Interface
- PMBus Interface
- Carrier Card I2C Interface
- SOM VCC_BATT Battery Input
- SOM Reset Input
- Carrier Card Reset Output
- SOM Power Good Output
- SOM to Carrier Card Ground Pins
- SOM Input Voltages and Output Sense Pins

Kit includes

- VE2302 SOM
- Quick-start card

Target apps

- Artificial intelligence
- Machine learning
- Embedded Compute
- Edge Sensor (e.g., Radar, LiDAR, Vision)
- Robotics

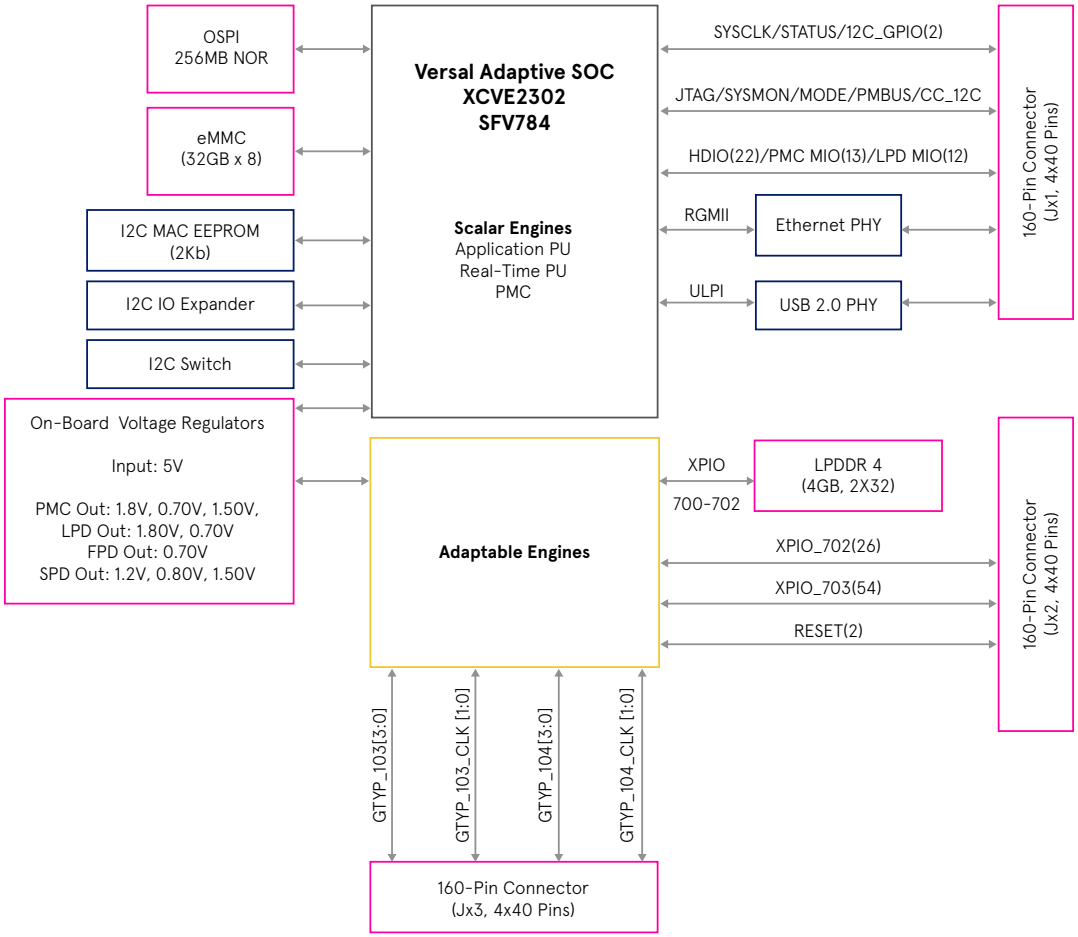
Markets

- Communications
- Healthcare
- Embedded Vision
- Home & Building Automation
- Industrial
- Computer Vision
- Security & Surveillance
- IoT Design

For more information, visit: avnet.me/ve2302-som

VE2302SOM

Block diagram



Featured manufacturers

AMD Micron RENESAS samtec TDK

Parts

Part number	Description	For more information
AES-VE2302-1L-SOM-E-G	VE2302 SOM with Versal AI Edge (XCVE2302-1LSESFVA784)	avnet.me/VE2302-SOM

Related parts

Part number	Description	For more information
AES-VE2302-DK-G	Versal AI Edge SOM and I/O Carrier Card Development Kit	avnet.me/VE2302-DK

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

Global Headquarters
Tria Technologies | Industriestr. 16, 76297 Stutensee | tria-technologies.com

Worldwide Distributor: Avnet
Online sales: Farnell