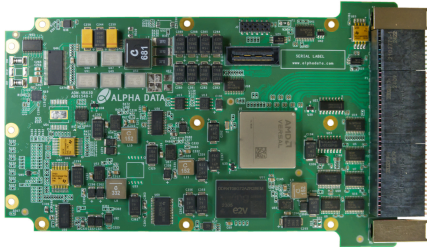


AD-01540



Applications

- COTS high performance SBC for space
- Adaptive SoC Development for Space
- In-Orbit Reconfigurable Compute
- High Performance Signal and Image Processing
- Input/Output Intensive Single Board Computer (SBC)
- Advanced Communication
- Machine Learning and AI

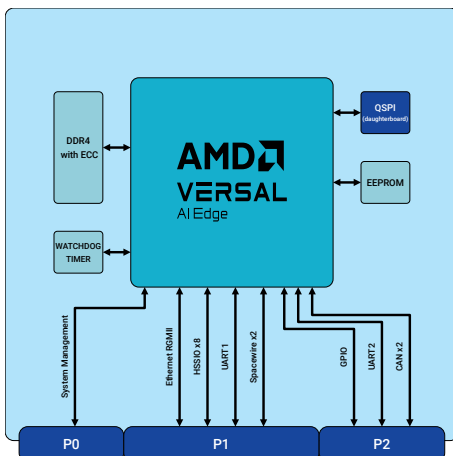
Board Features

- Fully radiation-tolerant reference design
- Versal VE2302 SoC for Space
- Full radiation-tolerant Power Supply using parts from TI and EPC Space
- 3U Space VPX form factor
- 8x 28G HSSIO via P1 Interface
- Teledyne e2v Space Grade DDR4 Memory with ECC and SEFI detection
- TMR Platform Management Controller
- Rad-hard watchdog
- SnPb solder
- Conformal Coating available

Summary

The **ADM-VB630** is a 3U Space VPX platform featuring the AMD Versal AI Edge XQRVE2302 Adaptive SoC for Space applications. This FPGA processor card is available as a 160 mm deep Space VPX form factor, equipped with a Space Grade DDR4 Memory module from Teledyne e2v, and a fully radiation-tolerant core power supply developed in collaboration with TI and EPC Space. Versal AI Edge enables high performance compute and IO intensive applications.

The platform is designed with components capable of surviving a minimum of **20 krad** TID and are free of destructive SEE to at least **43 MeV-cm2/mg**. The /DEV/PB version is for development purposes and fitted with commercial/ engineering model components.



Target Device

AMD Versal AI EDGE
VE2302-1MSESFVA784 (option)

FPGA Specification

LUTs = 150K(150K)
DSPs = 464(464)
BRAM = 5.4Mb(5.4Mb)
URAM = 43.6Mb(43.6Mb)

34x AI Engine-ML Tiles
2x ARM Cortex-A72 MPCores™
2x ARM Cortex-R5 MPCores

Application Data Memory

1x 8 GB (1G @ 72 bit wide) DDR4 MCP

Configuration Memory

Socketed flash boards are available with industrial grade NOR flash

Configuration Modes

The FPGA is configurable via socketed the socketed flash, Micro SD card, or JTAG connection to the backplane or board debug header.

Input/Output Interfaces

VPX P0 I2C (VPX Backplane)

1x I2C for System Monitor inside Versal

VPX P1 HSSIO (VPX Backplane)

8x HSSIO up to 28G: for 10/40/100G Ethernet; SpaceFibre; PCIe; JESD204; Aurora; HSDP etc.

VPX P1 SpaceWire (VPX Backplane)

2x SpaceWire Interfaces

VPX P1 MIO (VPX Backplane)

16x MIO pins for RTM Ethernet PHY or GPIO

VPX P2 GPIO (VPX Backplane)

72x Custom GPIO breakout to backplane (2.5V or 3.3V)

Other Interfaces

1G Ethernet (RGMII)

CAN x2

UART x2

LVDS x24

Deliverables

ADM-VB630 Board
One Year Warranty
One Year Technical Support

Board Format

3U VPX
WxHxD = 100mm x 19.55mm x 160mm
Weight = 470g

Environmental Specification

Cooling Option	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
AC0	0°C	+55°C	-40°C	+85°C
MIL	-55°C	+105°C	-60°C	+150°C

Operating Humidity : Up to 95% (non-condensing)

Order Code: ADM-VB630(T)(S)(D)

Platform Type	T	/DEV - ADM-VB630/DEV - with XCVE2302 fitted
Solder type	S	/PB
Note	D	Please contact Sales for customization options.