

AD-01456



Applications

- Off-the-Shelf Development Platform for Space 2.0
- Prototype for Space Grade Systems
- Deployable Space Grade Solution

Board Features

- 24x 32G HSSIO via FMC+ Interface
- 20x 10G HSSIO via backplane
- 2x DDR4 Memory Banks (8GB)

Summary

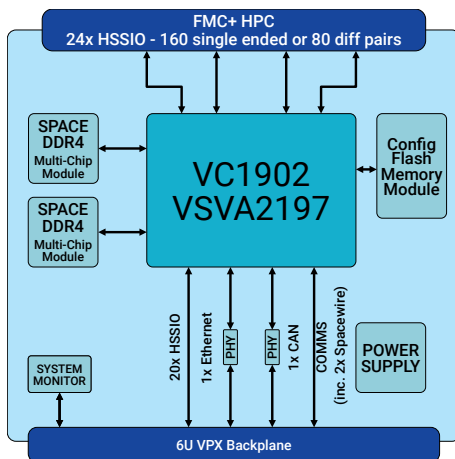
The **ADM-VA600** is a 6U Space VPX reference platform for the AMD-Xilinx Versal AI Core XQRVC1902 Adaptable SoC platform for Space 2.0.

Versal AI Core provides a massive leap forward in reconfigurable and customizable processing performance for Space mission deployment of compute intensive applications such as Signal Processing and Machine Learning. The platform is designed to accept components suitable for Space 2.0 level missions with limited radiation environment or mission length, such as LEO applications. The standard manufacturing build of this platform is however intended for laboratory prototyping use only with commercial footprint compatible parts and unqualified space parts fitted in most cases.

The primary customers will be using this version for design proving and other prototype level testing. Custom manufacture of the board with qualified space plastic parts, and possible application specific customizations is available as an option to customers.

The board features a reference Space Grade power supply co-designed with Texas Instruments, along with many other Space Enhanced Plastic devices covering clocking and system monitoring functionality. The board also features Space Grade DDR4 Memory modules from Teledyne-e2v and QSPI configuration flash from Infineon Technologies.

See the **ADK-VA600** page for the complete system overview.



Target Devices

AMD-Xilinx Versal AI Core
XCVC1902-1MSIVSVA2197 (default),
XQRVC1902-1MSBVSA2197 (option)

LUTs = 899K FFs = DSPs = 1968
BRAM = 34Mb URAM = 130Mb

400x AI Engine Tiles
2x ARM Cortex-A72 MPCore™
2x ARM Cortex-R5 MPCore
4x PCI Express Gen3 cores

Application Data Memory

2x 8GB (1G @ 72bits wide) DDR4

Configuration Memory

1Gb QSPI - on a daughter module -
upgradeable to RAD Tolerant Flash or a
VCK190 Xilinx Flash module.

Configuration Modes

Via QSPI Flash (or RAD Tolerant options) on
daughter module, uSD and via JTAG

Deliverables

ADM-VA600 Board
One Year Warranty
One Year Technical Support

Input/Output Interfaces

HSSIO

24x HSSIO up to 32G via FMC+ module
20x HSSIO up to 10G via VPX Backplane

I2C

I2C for System Monitor

JTAG

JTAG for System Monitoring

Board Format

6U VPX (233mm x 160mm x 12.5mm)

Environmental Specification

Cooling Option	Operating Temperatures		Storage Temperatures	
	Min	Max	Min	Max
AC1	-40°C	+70°C	-55°C	+100°C

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

EMC Standards

 FCC 47CFR Part 2
 EN55022:2010 Equipment ClassB

Ordering Information
Order Code: ADM-VA600(T)

Option	Code	Description of Options
Platform Type	T	/DEV - ADM-VA600/DEV - with XCVC1902 fitted, purchasable as part of ADK-VA600 Development Kit, /CC4 - build to order with Space Qualified Components, /C(x) - build to order with Customer Specific Modifications