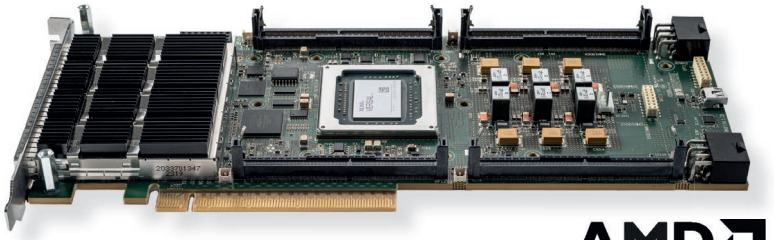
prodesign

Product Brief



AMD VERSAL

prodesign HAWK Versal® Acceleration Card

PRODUCT SUMMARY

The HAWK acceleration card with its latest AMD/Xilinx® Versal™ FPGA technology offers maximum resources and connectivity capability coupled with AI and DSP acceleration engines. The board provides four SODIMM connectors with programmable I/O voltages for standard DDR4 modules, NAND Flash modules (up to 30TB) as well as various peripheral options.

KEY MARKETS

→ High Performance Computing
→ AI and Machine Learning
→ Storage Acceleration / Near Data Processing
→ Network Acceleration

KEY FEATURES

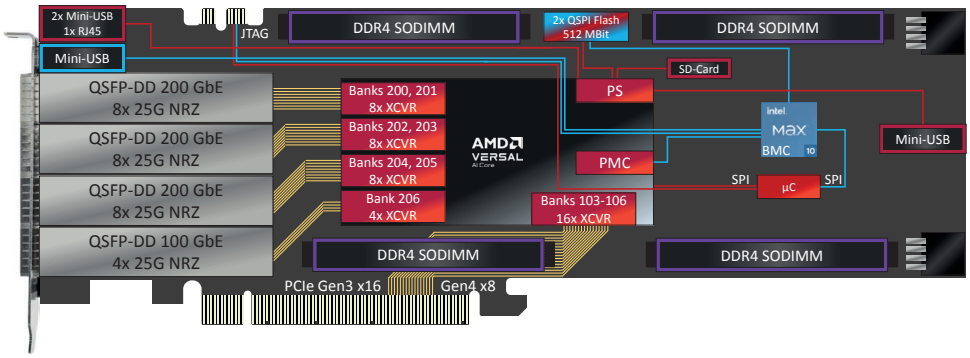
→ AMD/Xilinx ® Versal™ AI Core FPGA
→ PCIe Gen3 x16 / Gen4 x8
→ 4x SODIMM connectors with programmable I/Os and voltages for
  → Standard DDR4 modules
  → NAND Flash modules (up to 30TB)
  → Other custom memory modules or daughter cards
→ 4x QSFP28-DD network connectors

SPECIFICATION

FPGA	AMD/Xilinx® Versal™ AI Core Series: → XCVC1902 → XCVC1802
FPGA PL (total) memory	→ VC1902: 191Mb → VC1802: 141 Mb
AI / DSP Engines	→ VC1902: 400 AI engines / 1968 DSP engines → VC1802: 300 AI engines / 1600 DSP engines
LUTs / System Logic Cells	→ VC1902: 900K / 1968K → VC1802: 725K / 1586K
Extension Interfaces	4x SODIMM sockets → Up to 2666 MT/s (64b/ 72b) and 32 GB DDR4 per SODIMM → NAND flash modules with up to 12 TB per SODIMM → Custom memory modules → Custom daughter cards with programmable I/Os and voltage levels
Network Interfaces	4x QSFP28-DD connectors → 7x QSFP28 (100 Gbit/s each) → User programmable low jitter clocking supporting 10/25/40/100 GbE → Each QSF28P-DD can be independently clocked → Backwards compatible with QSFP+/ QSFP28

PRO DESIGN Electronic GmbH
Albert-Mayer-Straße 14–16
83052 Bruckmuehl, Germany
Phone:+49 (0) 8062-808-0
sales-fpga-acceleration@prodesign-europe.com

prodesign HAWK Versal® Acceleration Card



ARCHITECTURE AND FEATURES

PRO DESIGN IN-HOUSE ADVANTAGES

R&D team (HW, SW):
→ Board modifications
→ Customization
→ Custom module development

Production Lines:
Full cycle with 40 years of experience
→ fast and determined lead times
→ several SMD-lines

Test Facilities
→ Quality
→ Reliability
→ Service support

Further Information
Please visit:
www.prodesign-fpga-acceleration.com

Contact
sales-fpga-acceleration@
prodesign-europe.com

Hotline
Monday–Friday from 9:00 to 18:00 (MET)
Phone: +49 (0) 8062 808 - 0
Fax: +49 (0) 8062 100
E-Mail: hotline@prodesign-europe.com

FURTHER SPECIFICATIONS

PCIe Interface	PCIe Gen3 x16 /Gen4 x8 interface direct to FPGA
USB Interface	3x Mini-USB connector at front I/O bracket, 1x Mini USB connector to the inside of the server → USB 2.0 access to BMC and PS
Processing System (PS)	→ Dual-core 64 bit Arm® Cortex-A72 (APU) → Dual-core Arm® Cortex-R5F (RPU) → Fully operational independently from FPGA's programmable logic → Dedicated MIO connector for external access to GPIO → Dedicated Mini-USB connectors (USB and USB-UART) → Dedicated 1 GbE RJ45 interface → Dedicated SD-card interface for easy OS maintenance → 2x 512 Mbit QSPI flash memory shared between PS and BMC for easy image maintenance
Board Management Controller	→ Controller FPGA and microcontroller → Power Sequencing and Clock programming → Voltage, current, temperature monitoring
Power	→ Standard ATX 8-pin and PCIe slot 12V (up to 375 W) → 200 W typical max power consumption
Software / IP	→ prodesign SDK including example designs, BMC firmware → Xilinx® PetaLinux, Xilinx® Vivado®, Vitis®, HDL → Flash-/ NVME-Controller → TaPaSCo/ others on demand
Operating Temperature	Environmental temperature
Board Cooling	Passive, Active air and Liquid
Board Form Factor	254 mm x 111.28 mm (Full height, 3/4 length) Available in dual und single slot

SERVICES

Deliverables	Acceleration card with cooling and cables
Warranty	1-year on hardware
Order Code	PD-HAWK-YCVC1902 / -XCVC1802