

iG-G77V

Versal AI Edge Gen2 3U VPX Plug-in Module (Switch Profile)

The Versal AI Edge Gen2 3U VPX Plug-in Module (Switch Profile) is built on AMD's Versal AI Edge Gen2 adaptive SoC platform, delivering powerful AI acceleration and high-speed data switching for rugged embedded systems. It integrates advanced AI Engines, programmable logic, and Arm-based processing to enable real-time analytics and signal processing. Designed in a 3U VPX conduction-cooled form factor

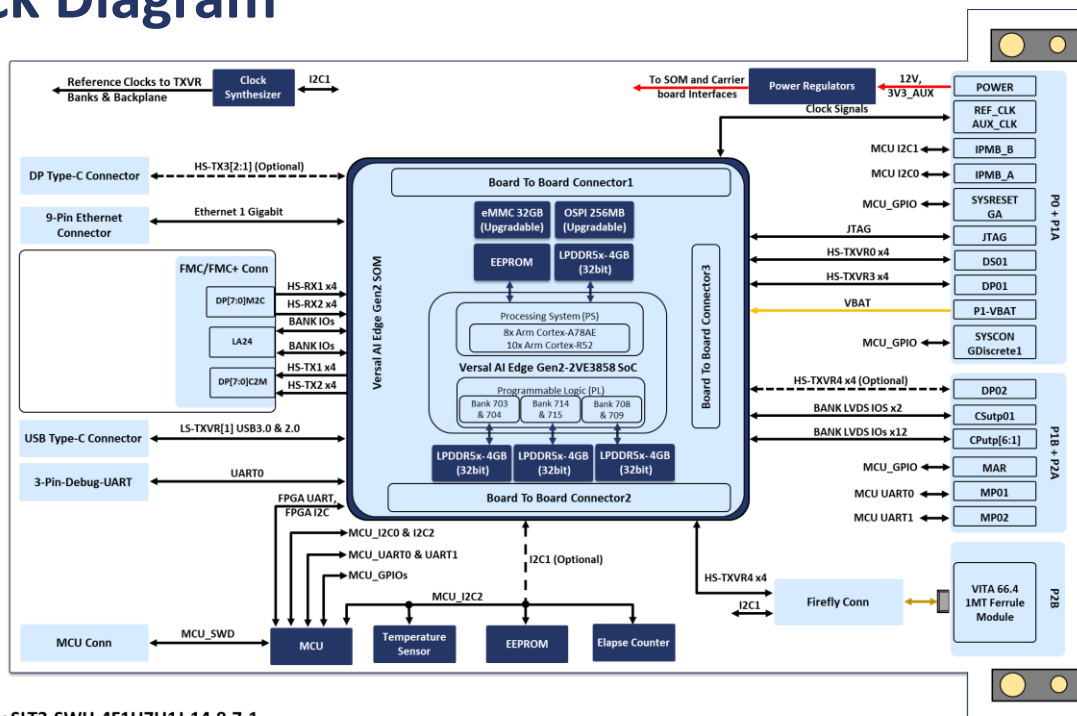
with a SOSA-aligned architecture, the module supports high-bandwidth backplane connectivity through multi-gigabit transceivers, enabling high-speed Ethernet and PCIe communication. It is ideal for aerospace, defense, radar, electronic warfare, and next-generation communication systems requiring high-performance edge AI processing.



Highlights

- ❖ SOSA aligned Versal™ AI Edge Gen2 3U VPX board
- ❖ Compatible with 2VE3858/3804/3558/3504 Devices with SSVA2112 package
- ❖ Four 32-bit, 4GB LPDDR5x
- ❖ Supports SOSA Aligned Switch profiles
- ❖ IPMC with Arm® 32-bit Cortex®-M0+ CPU
- ❖ ADC x4 & DAC x4 with sampling rate up to 1.6GSPS

Block Diagram



Switch Profile: SLT3-SWH-4F1U7U1J-14.8.7-1

Module Profile as per AMPS: MODA3-16.8.7-1-1-F2C-(2E5-N) (4E2) (14G2) [E12]

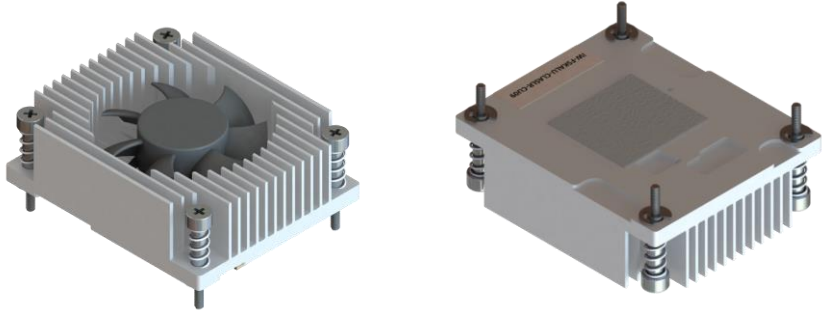
Technical Specifications

SoC	- Versal™ AI Edge Gen2 - Compatible with 2VE3858/3804/3558/3504 Devices 8x Arm Cortex- A78AE and 10x Cortex R52 - Supports AIE-ML v2 up to 144 Tiles - Up to 1188K Logic cells and 543K LUTs	VPX On board features	- On Board Clock Generators - Temperature Sensor x1 - Elapse Counter x1 - EEPROM x1
Memory	32bit, 4GB LPDDR5x from PS (Upgradable) - Three 32bit, 4GB LPDDR5x from PL (Upgradable) 256MB OSPI Flash and 32GB eMMC Flash	3U VPX Backplane: Connector – P0	Utility Plane - System Control Signals (GA[0:4], P, SYSRESET, NVMRO) - System Reference Clocks (REF_CLK, AUX_CLK) - IPMB-A, B & JTAG - Power Input (12V VDC, 3.3V_AUX)
IPMC	- Arm® 32-bit Cortex®-M0+ CPU up to 80 MHz - On chip 64KB of flash and 4KB of SRAM - One 12-bit 1.68-MSPS analog-to-digital converter (ADC)	3U VPX Backplane: Connector – P1A +P1B	Data Switch Port-01 - DS01[3:0] – 10G Ethernet Data Plane Port-01 - DP01[3:0] – 10G Ethernet Data Plane Port-03 - DP03[3:0] – 1G Ethernet System Control Signals (Maskable Reset, SysCON, GDiscrete) Maintenance Port MP01 Power Input (VBAT)
VPX Front Panel features	- Gigabit Ethernet Header - USB3.0 Type-C 3-pin Debug UART Header - Display Port - ADC x4 & DAC x4; Sampling rate up to 1.6GSPS	3U VPX Backplane: Connector – P2A	Control Plane Port - CSutp01 – 1G Ethernet Control Plane Port - CPutp[01:06] – 1G Ethernet Maintenance Port MP02

3U VPX Backplane: Aperture Pattern J – P2B	MT Ferrule Module – MM12F – 12 Fibre ports
Profile Spec.	Profile: SLT3-SWH-4F1U7U1J- 14.8.7-1

Profile Spec.	Module Profile as per AMPS: MODA3-16.8.7-1-1-F2C-(3E5-4E2) (16G2) [E12]
Slot Pitch	1 inch Conduction Cooled
BSP Support	Linux
Environment Specification	RoHS & REACH Compliant

Product accessories



Thermal Solutions

For any highly integrated System on Modules, thermal design is very important factor.
iWave Supports Fan Sink solution for Versal AI Edge Gen2 SoM

Applications

- **Industrial :**
 - AI in Smart Factory
 - Smart Factory Automation
 - Sensors/motors/connectivity, functional safety, and security
 - I/O modules and IoT devices
 - Tiny PLC and Edge AI
- **Video Processing**
 - Connectivity and video processing
 - Video over IP
 - Consumer electronics (AR/VR, Drones, Gaming)
- **Medical**
 - Diagnostic imaging & video
 - Patient monitoring

A Global Leader in Embedded Systems Engineering and Solutions

Since 1999, we have pioneered leadership in embedded systems technology, establishing ourselves as a strategic embedded technology partner for advanced solutions. Our comprehensive portfolio encompasses ARM and FPGA System on Modules, COTS FPGA solutions, and ODM solutions which include Telematics, Gateways & HMI Solutions.

Beyond our robust product ecosystem, we provide comprehensive ODM support with specialized custom design and manufacturing capabilities, enabling customers to accelerate and optimize their product development roadmaps. With a strategic focus on industrial, automotive, medical, and avionics markets, we deliver innovative technology solutions to global clients.

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