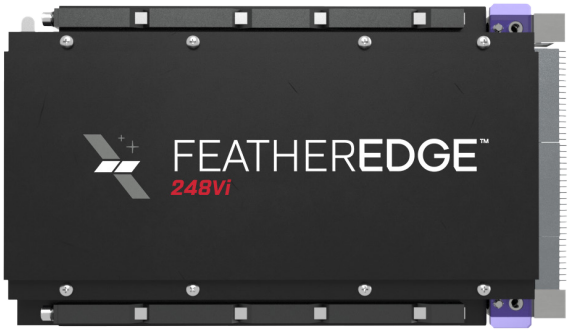
FeatherEdge™ 248Vi

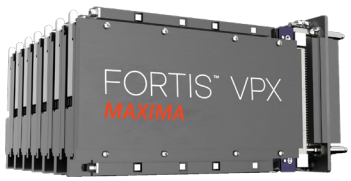
VPX 3U AI/ML Processor Module



FeatherEdge™ 248Vi is a standalone modular 3U VPX Artificial Intelligence (AI) and Machine Learning (ML) processor designed for extreme environments and size-constrained applications.

FeatherEdge™ 248Vi is a part of the Fortis™ VPX suite, which includes the following product line options:

- Sidus Single Board Computer (SSBC)
- Position, Navigation, and Timing (PNT)
- Global Positioning System (GPS) Receiver
- Custom Input/Output (I/O) Card
- Power Converter Card
- Software Defined Radio (SDR)



Key Features

- **Designed for Autonomous and Mission-Critical Systems -** FeatherEdge™ 248Vi delivers reliable near real-time data processing, rapid decision-making, and system resilience in demanding operational environments
- **Powered by NVIDIA® Jetson AGX Orin™ Industrial -** Provides high-performance compute capabilities for embedded edge applications, enabling advanced multi-sensor perception, situational awareness, and data fusion in a compact, power-efficient form
- **Optimized for Size, Weight, Power and Cost (SWaP-C) -** Tailored for unmanned platforms, cognitive electronic warfare, and C5ISR operations across air, land, sea, and space
- **Rugged SOSA® Aligned Design -** Industry standard form factor with enhanced environmental resilience for seamless system integration

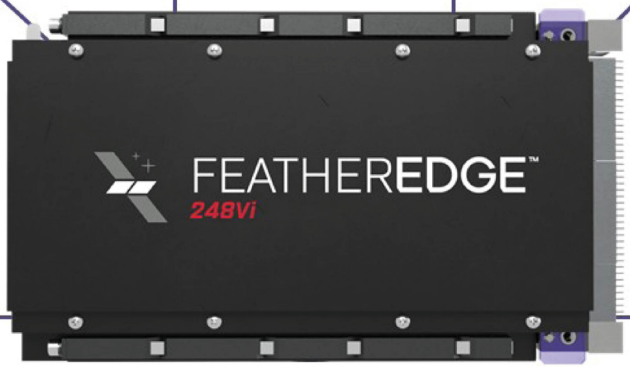
Applications

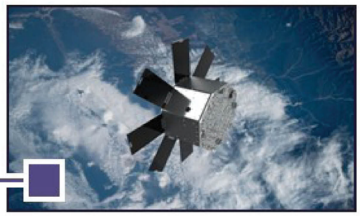
Air

- Aerial Drones
- Ballistic Missiles
- Commercial and Civil Aircraft

Sea

- Submarines
- Surface Ships
- Underwater Drones





Land

- Command and Control (C2) Network
- Electronic Warfare (EW)
- Intelligence, Surveillance, and Reconnaissance (ISR)
- Unmanned Ground Vehicles (UGVs)

Space

- Counterspace Operations
- Satellites
- Space Defense
- Space Situational Awareness

SIDUS SPACE

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FeatherEdge™ 248Vi

VPX 3U AI/ML Processor Module

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FeatherEdge™ 248Vi 3U Specifications

System Architecture	SoC	NVIDIA® Jetson AGX Orin™ Industrial
	Coprocessor	248 TOPS
	Microcontroller	Rad-tolerant ARM® Cortex® M7
	FPGA	PolarFire® SoC
	RAM	64 GB LPDDR5

Power	Input Power	12 VDC
	Power Consumption	» 15-25 W under typical load » Max 75 W when board is fully utilized

Mechanical	Dimensions	3U VPX Slot (100 mm x 160 mm)
	Weight	<1.5 kg

I/O	Gigabit Ethernet (GbE)	1
	10 Gigabit Ethernet (10GbE)	1
	USB 2.0	1
	USB 3.2	1
	RS422	1
	UART TTL	1
	PPS Input	1
	LVDS/SpaceWire	4
	CANbus	1
	PCIe®	1x PCIe® Gen4 ×4

Memory Resources	User Flash	» 680 GB pSLC NVMe SSD (with ECC) » 64 GB eMMC 5.1

Environmental	Cooling Method		Conduction-cooled
	Operating Temp	Min.	-40° C
		Max.	+85° C
	Vibration (3 Axes) MIL-STD-810H		0.024G / 25 Hz
			0.15G / 150 Hz
			0.15G / 1 kHz
	Random (Freq)		0.02G / 0-2 kHz
	Sine (Freq)		10G / 0-500 Hz
	Shock (3 Axes)		20G / 5 mS

Software	» Linux OS » TensorRT » PyTorch

Orbit Type	Terrestrial	LEO	GEO
Radiation Tolerance (TID)	N/A	25 krad	100 krad
Relative Humidity	0-95%	-	-
Part Selection	MIL-SPEC	Rad-tolerant	Rad-tolerant
SEU Rate	N/A	$<2.00 \times 10^{-3}$ NA	$<6.00 \times 10^{-3}$ NA

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