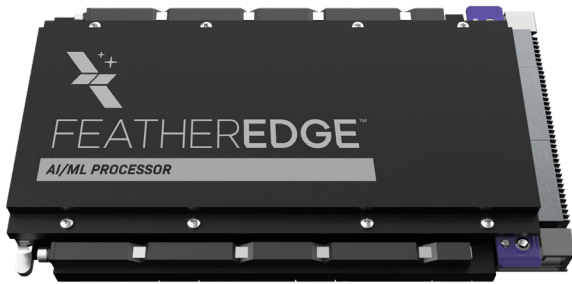


FeatherEdge™

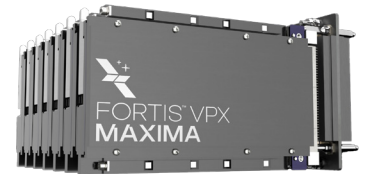
VPX 3U AI/ML Processor Module



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

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

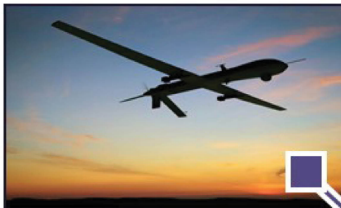
- » Sidus Single Board Computer (SBC)
- » Position, Navigation, and Timing (PNT)
- » Global Positioning System (GPS) Receiver
- » Custom Input/Output (I/O) Card
- » Power Converter Card
- » Software Defined Radio (SDR)



Key Features

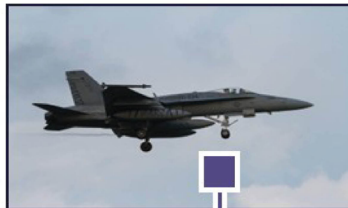
- » **Designed for Autonomous and Mission-Critical Systems** - FeatherEdge™ delivers reliable near real-time data processing, rapid decision-making, and system resilience in demanding operational environments.
- » **Powered by NVIDIA® Jetson AGX Orin™ Industrial** - Provides high-performance compute 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
- » Airborne Optonics
- » Intelligence, Surveillance, and Reconnaissance (ISR)
- » Unmanned Systems



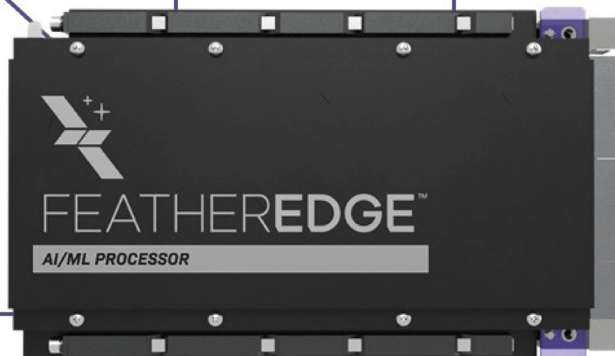
Sea

- » Submarines
- » Surface Ships
- » Underwater Drones



Land

- » Active Protection Systems
- » Command and Control (C2) Network
- » Degraded Visual Environment Processing
- » Ground Support Equipment
- » Integrated Visual Augmentation Systems (IVAS)
- » On-platform Cognitive Electronics Warfare (EW)



Space

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



FOR MORE INFORMATION
EMAIL US AT:
SALES@SIDUSSPACE.COM

150 N SYKES CREEK PKWY
STE 200 MERRITT ISLAND,
FLORIDA, USA 32953

SIDUSSPACE.COM
+1 (321) 450.5633



FeatherEdge™ VPX 3U Specifications

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

I/O	Gigabit Ethernet (GbE)	1
	10 Gigabit Ethernet (10GbE)	1
	USB 2.0	1
	Serial Ports (RS422)	1
	PPS Input	1
	CANbus	1
	PCIe®	4x PCIe® Gen4 GPIOs

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	

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

Software	» Linux OS
	» TensorRT
	» PyTorch

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		

Orbit Type	Terrestrial	LEO	GEO
Radiation Tolerance (TID)	N/A	25 krad	100 krad
Latch Up Immunity (SEL/SEE)	N/A	>40 MeV-cm²/mg	>75 MeV-cm²/mg
Relative Humidity	0-95%	N/A	N/A
Part Selection	MIL-SPEC	Rad-hard	Rad-hard
SEU Rate	N/A	<2.56 × 10 ⁻⁵ NA	<2.56 × 10 ⁻⁵ NA

FeatherEdge™ Block Diagram | SOSA™ Profile 14.2.16

