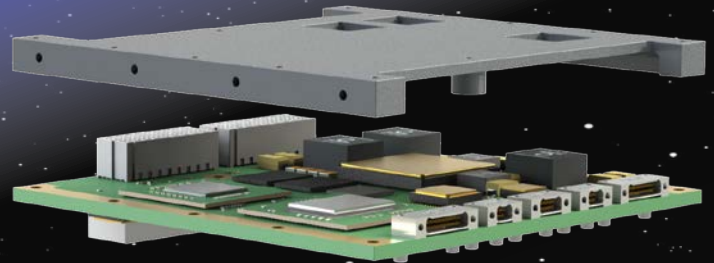




# EDGE Payload Processor

## FACT SHEET



### OVERVIEW

Cubic Aerospace's EDGE Payload Processor is a radiation tolerant, highly-parallelized, and flexible platform capable of order-of-magnitude processing improvements over state of the art spacecraft computers. The EDGE's architecture is built around flexible and highly-parallelizable graphics processing unit (GPU) technology. The card provides a 192-core GPU as its primary compute engine within a radiation tolerant architecture, providing on-orbit computational throughput that is unrivaled at the EDGE's size, weight, and power. The EDGE also provides advanced power management features, allowing unused cores to be unpowered and clocks to be dynamically adjusted. The EDGE enables a new generation of highly capable and affordable on-orbit processing in a package suitable for most spacecraft.

### MISSION APPLICABILITY

- Image manipulation, comparison, acquisition, and processing
- RF signal processing
- Computer vision for proximity and remote docking operations
- Software defined radio and channelizing
- Synthetic aperture radar (SAR) data processing
- Data packetization and compression

### FEATURES

#### Processing

- 192 CUDA GPU cores
- Quad-core ARM CPU configurable for low power applications

#### Memory

- 2GB DDR3
- 4GB TMR NAND Flash

#### Standard Interfaces

- CameraLink Full/Deca
- Ethernet (GigE)
- SRIO (2 Fat Pipes)
- SpaceWire (x2)
- CAN
- UART
- SPI
- I<sup>2</sup>C
- GPIO

#### Optional Interfaces

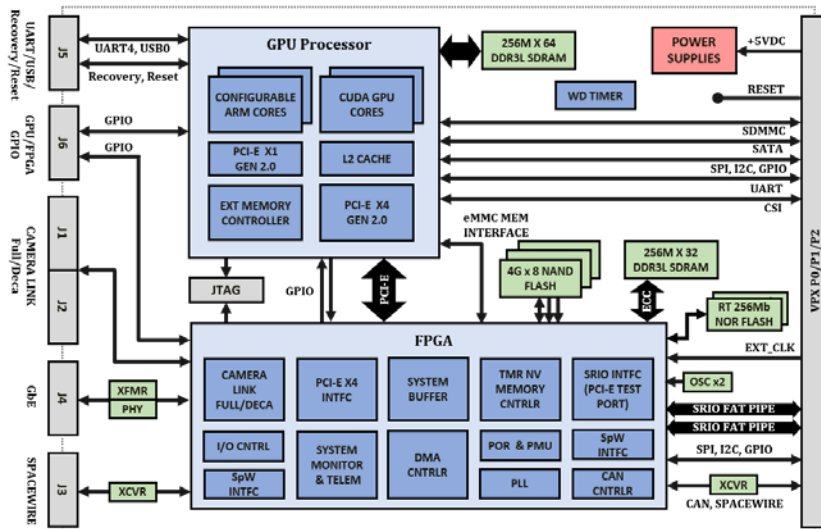
- 1553B

#### Available Form-Factors

- 1U CubeSat
- 3U SpaceVPX

#### Software

- 32-bit Linux for Tegra
  - R21.6
- CUDA 6.5 Supported
- UART and Ethernet GSE Development Interfaces Available



### SPECIFICATIONS

Mass	120	g
Input Voltage	+5.0	V
Typical Operating Power	< 25	W
Maximum Clock Speed	2	GHz
Computational Throughput	> 200	GFLOPS
Operating Temperature	-40 to 105	°C
Radiation Tolerance	> 30	kRad (Si)

### INQUIRIES

Abigail Davidson  
ahd@cubicaerospace.com