CUBIC AEROSPACE

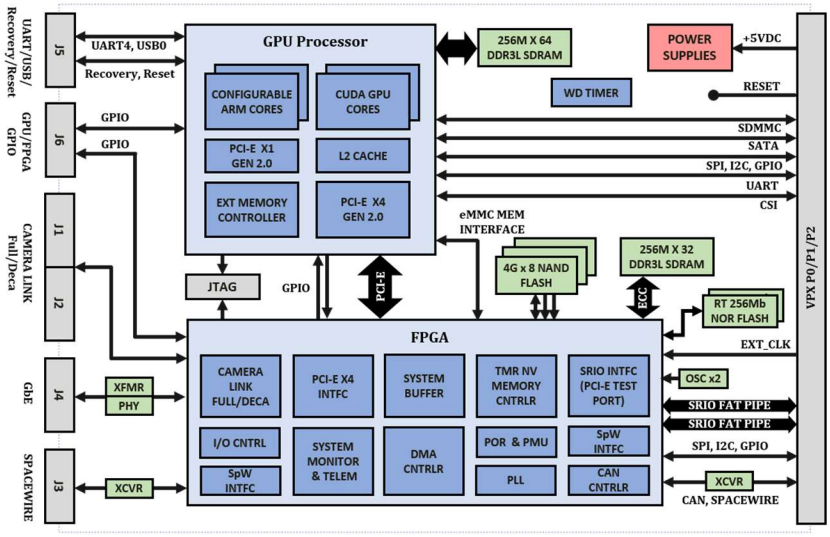
EDGE
Payload Processor
FACT SHEET

OVERVIEW

Cubic Aerospace's EDGE Payload Processor is a radiation tolerant, high performance, and flexible platform capable of order-of-magnitude processing improvements over state of the art spacecraft computers. The EDGE's architecture is built around 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



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)

FEATURES

Processing

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

Memory

- 2GB DDR3
- 4GB TMR NAND Flash

Standard Interfaces

- Gigabit Ethernet (x2)
- SRIO (2 Fat Pipes)
- SpaceWire (x2)
- CAN
- UART
- SPI
- I^2C
- GPIO

Optional Interfaces

- CameraLink Full/Deca
- 1553B

Available Form-Factors

- 3U SpaceVPX
- 1U CubeSat

Software

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

INQUIRIES

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