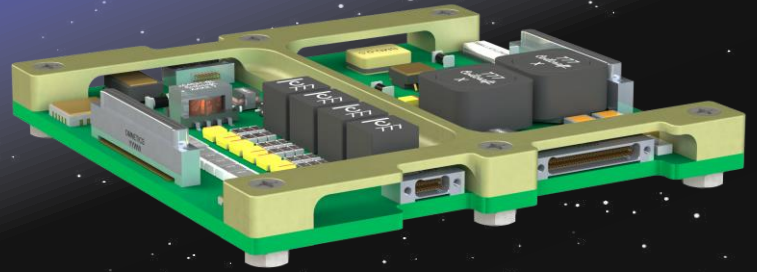


Integrated CubeSat Electronics

Single Board EPS and C&DH

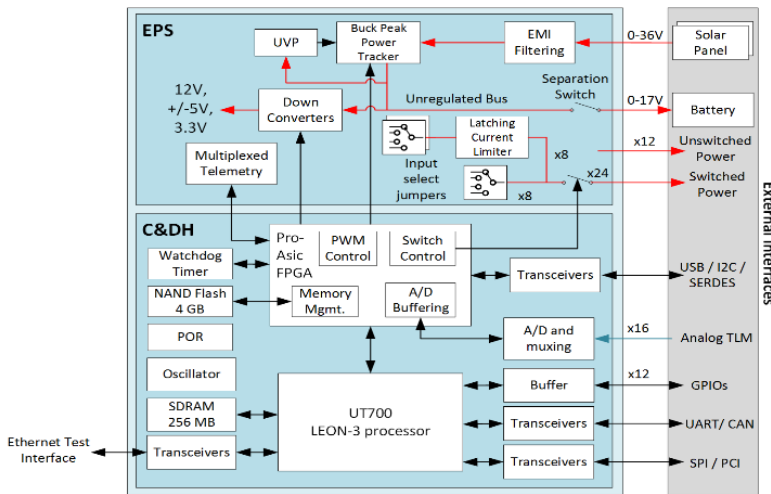
FACT SHEET



OVERVIEW

Cubic Aerospace's radiation hardened, high reliability Integrated CubeSat Electronics (ICE) combines Power Management and Distribution and Command & Data Handling functions into a single 1U circuit card assembly. This high-density is enabled by chip-on-board packaging technology combined with modern power converter circuit design techniques and the latest generation of digital devices.

ICE functions include peak-power tracking solar array power conversion, battery charge regulation, power distribution, telemetry processing, high-speed serial interfaces, solid-state recorder, and a LEON3-based flight computer. The ICE maximizes the available payload volume, enabling the smallest possible form-factor for a given mission.



SPECIFICATIONS

Dimensions	93 x 93 x 14	mm
Mass	145	g
Total Efficiency	> 88	%
Power Dissipation	< 10	W
Maximum Clock Speed	132	MHz
Computational Throughput	120	DMIPS
Operating Temperature	-40 to +105	°C
Single Event	Operate through: LET > 37 Survive: LET > 80	MeV-cm2/mg
Total Ionizing Dose	50	kRad (Si)

FEATURES

Power Generation

- 85W maximum input power

Charging

- 16.8V max charge voltage
- 5A max charge current

Power Outputs

- +/-5.0V regulated bus (5A)
- +3.3V regulated bus (4A)
- +12.0V regulated bus (2A)
- Unregulated battery bus (10A)
- 24x Switched outputs
- 12x Un-switched outputs

Processor

- UT700 LEON3 FT

Memory

- 256 MB of SDRAM (EDAC)
- 4 GB of NV (EDAC)
- 64 MB Boot RAM

Interfaces

- PCI
- Ethernet
- I2C
- SpaceWire
- CAN
- RS-422
- GPIO
- (optional)

General

- CubeSat Form Factor
- Re-Configurable FPGA
- Mission Elapsed Time (MET) Counter
- Configurable Watchdog Timer
- Under-voltage, Over-voltage, Over-current, Over-temperature fault protection

INQUIRIES

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