

NEWSPACE MARKET · COMPANY PROFILE



Aitech Systems

United States · aitechsystems.com

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PRODUCTS

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SERVICES

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as of 20 August 2026



Aitech Systems

Aitech Systems is a designer and manufacturer of rugged, high-performance embedded computing solutions for aerospace, defense, and space applications. The company develops single board computers, mission computers, GPU/AI processing modules, and I/O systems engineered to survive extreme environmental conditions including radiation, vibration, and thermal extremes encountered in orbit and in harsh terrestrial deployments. Aitech's space-qualified product lines support satellite avionics, on-board data processing, and AI/ML inference at the edge, serving both military/aerospace (mil-aero) programs and the growing commercial small satellite market. The company's radiation-tolerant and radiation-hardened boards are designed for long-duration missions requiring high reliability and SWaP-optimized (size, weight, and power) computing performance.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Configuration of NVIDIA Jetson-based solutions

Aitech's applications engineers work with prime contractors and program offices to configure NVIDIA Jetson-based solutions to specific mission requirements, environmental specs, and I/O constraints.

Fully Tailored, AI-Ready Rugged Embedded Computing Solutions

Aitech partners with defense and space companies to deliver fully tailored, rugged, AI-ready embedded computing hardware and integrated systems built to meet exact mission needs.

Product catalogue



AITECH SYSTEMS

A445 IBOX Radiation Tolerant Engine Controller

A space-qualified radiation-tolerant integrated control subsystem managing spacecraft power switching, peripheral control, engine interfaces, cameras, RF transmitters, and sensor I

Control Logic	FPGA (radiation-tolerant, user-reprogrammable)
Storage	Flash memory
Cards	Switch Card (SWC) + 2 × High Power Distribution Unit (HPDU)
Analog Inputs	Yes
Thermistor Inputs	Yes
Discrete I/O	Yes
Serial Ports	Yes

price on request



AITECH SYSTEMS

CM950 PMC Carrier Card for 3U CompactPCI SBCs

A radiation-tolerant single-slot 3U CompactPCI carrier card enabling direct connection of single-wide conduction-cooled PMC I/O modules to the SP0-S SBC, consuming less than 2 W an

Form Factor	Single-slot 3U CompactPCI
Power Consumption	< 2 W
TID (Standard Flight)	45 krad (Si) unshielded
TID (Optional)	100 krad (Si)
PMC Accommodation	Single-wide conduction-cooled PMC
Cooling	VITA 30.1-2002 conduction-cooled

price on request



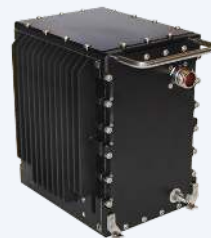
AITECH SYSTEMS

CM951 PMC Carrier Card with Integrated MIL-STD-1553B

A radiation-tolerant single-slot 3U CompactPCI PMC carrier card combining an additional PMC site with integrated dual-redundant MIL-STD-1553B interface, consuming less than 7 W and

Form Factor	Single-slot 3U CompactPCI
MIL-STD-1553B	Dual redundant BC/RT/MT (STANAG 3838)
Power Consumption	< 7 W (dependent on 1553 traffic)
TID (Standard Flight)	45 krad (Si) unshielded
TID (Optional)	100 krad (Si)
Cooling	VITA 30.1-2002 conduction-cooled

price on request



AITECH SYSTEMS

E193 1/2-ATR 3U VPX & CompactPCI Rugged Enclosure

A standard 1/2-ATR sealed aluminum enclosure accommodating up to four 3U OpenVPX or CompactPCI boards with internal conduction cooling, 28 Vdc MIL-STD-704 power input, and MIL-DTL-

Form Factor	1/2-ATR, 3U
Board Capacity	4 × 3U boards (OpenVPX or CompactPCI)
Dimensions	5" W × 6.5" L × 7" H (127 × 165 × 178 mm)
Power Standard	MIL-STD-704 compliant
Connectors	MIL-DTL-38999 circular connectors
Cooling	Internal conduction-cooled; natural convection external
Environmental	Sealed

price on request



AITECH SYSTEMS

E900 8-Slot 3U CompactPCI Space Enclosure

A cold-plate-cooled 8-slot 3U CompactPCI space enclosure with dual 28V/140W radiation-tolerant power supplies, up to 9 high-speed I/O interfaces tested to 400 Mbps, and Faraday cage

Slot Configuration	8-slot 3U CompactPCI backplane
Power Supplies	Dual 28V/140W, radiation-tolerant, latch-up immune
Auxiliary Outputs	+15 VDC, -15 VDC, +12 VDC dedicated
High-Speed I/O	Up to 9 interfaces, tested at 400 Mbps
Cooling	Cold plate conduction cooling
EMI/RFI	Faraday cage + complete power line filtering

price on request



AITECH SYSTEMS

E905 1/2 ATR 3U CompactPCI Space Enclosure

A cold-plate-cooled 3-slot 3U CompactPCI space enclosure with a radiation-tolerant 28 Vdc/140 W power supply (>25 krad TID, >37 MeV-cm²/mg latch-up immunity), Faraday cage EM

Slot Configuration	3-slot 3U CompactPCI
Power Supply Input	28 Vdc / 140 W
Power Supply Efficiency	> 80%
Total Ionizing Dose (Power Supply)	> 25 krad (Si)
Latch-up Immunity (Power Supply)	> 37 MeV-cm ² /mg
Cooling	Cold plate conduction cooling
EMI/RFI	Faraday cage + complete power line filtering

price on request



AITECH SYSTEMS
IQSat AI-Enabled PicoSat System

IQSat is Aitech's AI-enabled picosatellite constellation platform for LEO missions, providing real-time onboard anomaly detection for Earth observation, space situational awareness

Mission Type	Picosatellite constellation, LEO
AI Capability	Onboard real-time anomaly detection
Mission Profiles	Earth Observation, Space Situational Awareness, RF Sensing
Access Models	Data as a Service, Satellite Purchase, Custom Configuration
Minimum Constellation	8 satellites (buy model)
Launch	Constellation launching 2026
Optional Software	Watchman for Space, Command & Control Portal

price on request



AITECH SYSTEMS
S-A1760 Venus Space GPGPU

The S-A1760 Venus is a radiation-characterized small form factor space GPGPU based on the NVIDIA Jetson TX2i with Pascal architecture, offering 256 CUDA cores, 1 TFLOPS, and 8 GB L

GPU	NVIDIA Jetson TX2i, Pascal Architecture
CUDA Cores	256
CPU	NVIDIA Denver 2 Dual-Core ARM + Cortex A57 Quad-Core ARM
Performance	1 TFLOPS
Energy Efficiency	60 GFLOPS/W
Memory	8 GB LPDDR4 with ECC
Storage	32 GB SSD

price on request



AITECH SYSTEMS

S-A2300 Radiation Tolerant COTS AI Supercomputer

The S-A2300 is a radiation-tolerant small form factor AI supercomputer based on the NVIDIA Jetson AGX Orin Industrial SoM with 2048 CUDA Ampere cores, 248 TOPS AI performance, and

SoM	NVIDIA Jetson AGX Orin Industrial
AI Performance	248 TOPS
CUDA Cores	2048 (Ampere Architecture)
Tensor Cores	64
CPU	12-core ARM v8.2 64-bit
Memory	64 GB LPDDR5 with ECC
Storage	NVMe SSD + Micro SD

price on request



AITECH SYSTEMS

S-A6640 Space SFF Managed Ethernet Switch/Router

The space industry's first standalone small form factor managed Ethernet switch/router with 12 ports of 10/100/1000 Base-T connectivity, D38999 mil-spec connectors, and IP54 sealin

Ports	12 × 10/100/1000 Base-T copper
Forwarding	Full wire-speed non-blocking
Features	ACL, QoS scheduling, port mirroring, jumbo frames (10 kB), fast boot
Connectors	D38999 I/O and power connectors
Environmental Sealing	IP54
EMI/RFI	Filtering included
Monitoring	Temperature sensors, watchdog, power monitor

price on request



AITECH SYSTEMS

S703 Radiation Tolerant MIL-STD-1553 PMC Card

A radiation-tolerant single-width PMC card providing one dual-redundant MIL-STD-1553B channel (BC/RT/MT, STANAG 3838) with 64k × 16-bit shared RAM in engineering units, consuming 1

Protocol	MIL-STD-1553B (STANAG 3838 compliant)
Channels	1 dual-redundant BC/RT/MT
Shared RAM	16k × 16 (flight); 64k × 16 (engineering)
Power Consumption	< 3.3 W nominal
PCI Interface	32-bit PCI 2.1, 33 MHz
Cooling	IEEE 1101.2 conduction-cooled
Form Factor	Single-width PMC

price on request



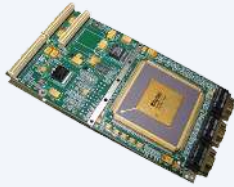
AITECH SYSTEMS

S710 Radiation Tolerant Communications PMC

A radiation-tolerant single-wide PMC card featuring IEEE-1394a FireWire (3 ports at 400 Mbps) and 12 RS-422 serial channels with triple-voted memory protection and FPGA-based inter

FireWire Ports	3 × 400 Mbps IEEE-1394a with OHCI controller
RS-422 Input Channels	12
RS-422 Output Channels	12
Serial I/O Modes	NRZ-L, NRZ-M, BiPhase-L configurable
Memory Protection	Triple-voted algorithm for I/O buffers
PCI Interface	32-bit PCI 2.1, 33.333 MHz
Power Consumption	< 3.5 W nominal

price on request



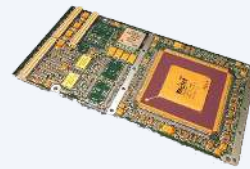
AITECH SYSTEMS

S730 Radiation Tolerant SpaceWire PMC

A radiation-tolerant PMC card providing three full-duplex SpaceWire ports compliant with ESA ECSS-E-50-12C at up to 100 MHz, with 128 MB onboard SDRAM and less than 5 W power consu

SpaceWire Ports	3 full-duplex, ESA ECSS-E-50-12C compliant
Clock Frequency	Up to 100 MHz (selectable per port)
PCI Interface	32-bit PCI 2.2, 33.333 MHz, Master/Slave
Onboard Memory	128 MB volatile SDRAM
Power Consumption	< 5 W (SpaceWire only)
Total Ionizing Dose	>100 krad (Si) (flight model)
Optional I/O	2 × RS-422 serial, 32 × GPIO

price on request



AITECH SYSTEMS

S740 Radiation Tolerant Communications PMC

A radiation-tolerant single-width conduction-cooled PMC card providing 16 RS-422 differential input and 16 output channels with FPGA-based serial I/O control and 128 MB ECC SDRAM f

RS-422 Input Channels	16 differential
RS-422 Output Channels	16 differential
Optional I/O	Up to 64 TTL drivers/receivers
Onboard Memory	128 MB ECC-protected SDRAM
PCI Interface	32-bit PCI 3.0, 33.333 MHz
Serial I/O Modes	NRZ-L, NRZ-M, BiPhase-L
Power Consumption	< 5 W nominal

price on request



AITECH SYSTEMS

S910 Rugged 3U CompactPCI MIL-STD-1553B Board

A radiation-tolerant 3U CompactPCI board providing four dual-redundant MIL-STD-1553B channels (BC/RT/MT modes, STANAG 3838 compliant) consuming less than 9.8 W, qualified for LEO t

MIL-STD-1553B Channels	4 total (2 base + 2 via S911 mezzanine), dual redundant
Protocol Modes	BC/RT/MT, STANAG 3838 compliant
Shared RAM per Channel	16k × 16-bit (flight unit)
Power Consumption	< 9.8 W at 50% duty cycle
PCI Interface	32-bit PCI 2.1, 33.333 MHz
Component Grade	Grade-2 per NASA EEE-INST-002
Form Factor	3U CompactPCI

price on request



AITECH SYSTEMS

S930 Radiation Tolerant 3U CompactPCI Analog I/O Board

A radiation-hardened 3U CompactPCI analog I/O board providing 51 12-bit ADC input channels ($\pm 10V$), 2 DAC output channels, 11 bus voltage monitors, and triple-voted SRAM buffers for

ADC Resolution	12-bit
Analog Input Channels	51
ADC Input Range	-10V to +10V
Analog Output Channels	2 × 12-bit DAC, -10V to +10V
Bus Voltage Monitors	11 channels
Low Pass Filter Cutoff	< 50 Hz
Reference Output	10V, 200 mA

price on request



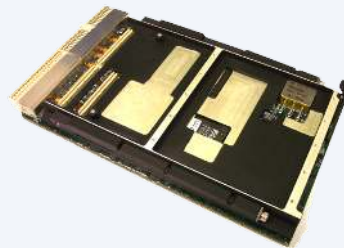
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S940 Radiation Tolerant 3U CompactPCI Digital I/O Board

A radiation-tolerant 3U CompactPCI digital I/O board providing 12 RS-422 outputs, 4 RS-422 inputs, 2 RS-232 UART ports, 3 H-bridge torque rod interfaces, and opto-isolated discrete

RS-422 Output Channels	12
RS-422 Input Channels	4
RS-232 UART Ports	2
H-Bridge Torque Rod Interfaces	3 (2A rated)
Discrete Output Drivers	2 opto-isolated
Power Consumption	< 14 W nominal
Memory Protection	Triple-voted buffered (serial interface)

price on request



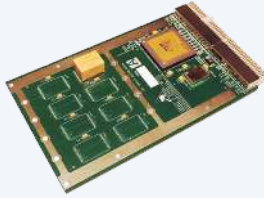
AITECH SYSTEMS

S950

The S950 is a rugged 3U CompactPCI single board computer designed for harsh space radiation environments, offering low power consumption and high radiation tolerance for mission-cr

Processor	High Performance PowerPC® 750FX Processor
Board Type	Single-Slot Conduction-Cooled 3U CompactPCI Single Board Computer (SBC)
Operating Frequency	1 GHz
Power Consumption	Less than 10 W
Total Ionization Dose (TID)	Greater than 15 krad (Si) (unshielded)
SDRAM	128 MB (Triple Voting Architecture, 3 Bits per Cell)
LI Cache	32 KB (with Parity Check for Both Tags and Data)

price on request



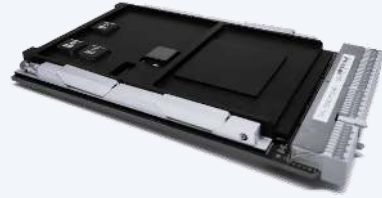
AITECH SYSTEMS

S992 Radiation-Tolerant 3U CompactPCI Non-Volatile Memory Board

A radiation-tolerant 3U CompactPCI non-volatile Flash memory board providing scalable 8 to 64 GB NAND storage with hardware EDAC and PCI DMA engine, consuming less than 2 W for spa

Storage Capacity	8 to 64 GB (scalable)
Memory Type	Non-volatile NAND Flash
NAND Modules	1 to 8 individually addressable (3D-Plus)
PCI Interface	32-bit CompactPCI, 33.333 MHz
Power Consumption	< 2 W nominal
Error Correction	Hardware EDAC (single-bit correction, double-bit detection)
Form Factor	3U CompactPCI, single-slot conduction-cooled

price on request



AITECH SYSTEMS

S993 Radiation-Tolerant 3U CompactPCI Non-Volatile Memory Board

A radiation-tolerant 3U CompactPCI non-volatile storage board providing 256 GB to 1 TB NAND Flash with hardware EDAC and POSIX-compliant Flash File Driver with wear leveling for hi

Storage Capacity	256 GB base / up to 1 TB (8 NAND modules)
Memory Type	Non-volatile NAND Flash
NAND Modules	Up to 8 individually addressable (3D-Plus)
PCI Interface	32-bit CompactPCI, 33 MHz or 66 MHz
Error Correction	Hardware EDAC (single-bit correction, double-bit detection)
File System	POSIX-compliant Flash File Driver (FFD) with wear leveling and FTL
Form Factor	3U CompactPCI, single-slot conduction-cooled

price on request



AITECH SYSTEMS

SP0 Rad-Tolerant 3U CompactPCI SBC

The SP0 is a radiation-tolerant 3U CompactPCI Single Board Computer (SBC) designed for space applications, featuring a PowerQUICC-III MPC8548E processor and low power consumption.

Processor	PowerQUICC-III MPC8548E @ 833 MHz, 1.0 or 1.2 GHz
Core Complex Bus (CCB) Speed	333 MHz
Form Factor	Rugged 3U CompactPCI SBC
PMC Site	One Standard PMC Site
Compliance	PICMG 2.0, Rev. 3.0 Compliant
Role	System Controller or Peripheral
DDR1 SDRAM	512 MB at 333 MHz with ECC

price on request



AITECH SYSTEMS

SP0-S Radiation Tolerant 3U CompactPCI SBC

The SP0-S is a radiation-hardened 3U CompactPCI single-board computer using the NXP PowerQUICC III MPC8548E processor at 1.0 GHz with 1 GB DDR2 ECC memory, rated to >100 krad (S

Processor	NXP PowerQUICC III MPC8548E
Clock Speed	1.0 GHz
Core Complex Bus	400 MHz
Memory	1 GB DDR2 @ 400 MHz with ECC
User Flash	1 GB with ECC
Ethernet Ports	2 × Gigabit
Serial Ports	3 × RS-422 Async

price on request



AITECH SYSTEMS

SP1-S Aquarius™ Radiation Tolerant 3U SpaceVPX SBC

The SP1-S Aquarius™ is a radiation-tolerant 3U SpaceVPX single-board computer powered by NXP Layerscape LS1046A (four 64-bit ARM Cortex-A72 cores at 1.8 GHz) designed for LEO, GEO,

Processor	NXP Layerscape LS1046A SoC
CPU Cores	Four 64-bit ARM Cortex-A72
Clock Speed	1.8 GHz
Memory	4/8 GB DDR4 @ 1050 MHz with ECC
FPGA	Radiation-tolerant Polarfire FPGA
Power Consumption	< 50 W
Total Ionizing Dose	100 krad (Si)

price on request

Contact Aitech Systems

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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