Federal Frontier FleetEdge Hardware Series

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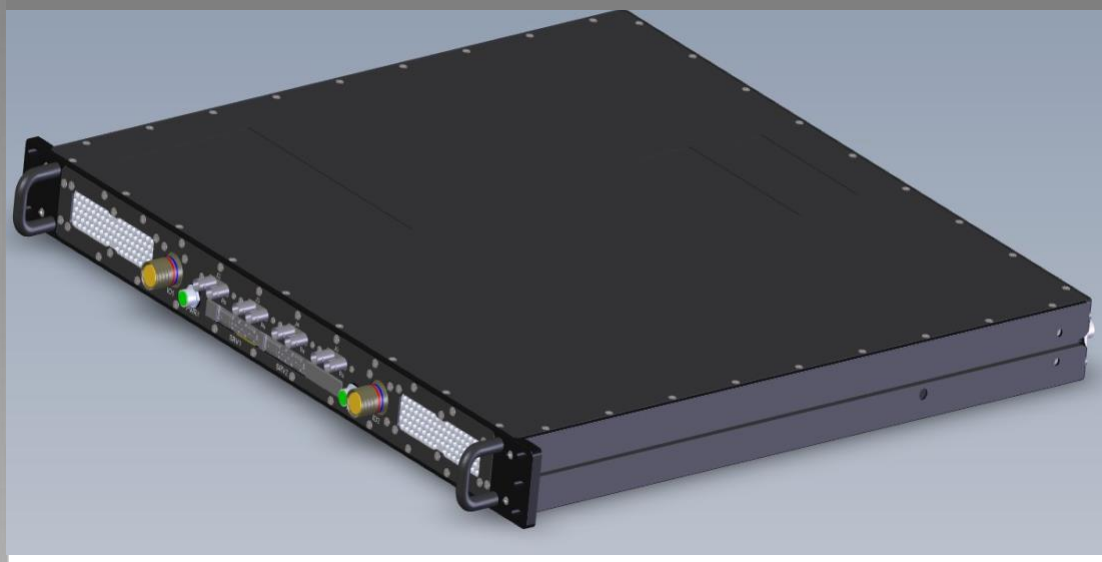
Data Sheet

Alpha Research and Technology (ART)

A unique blend of system engineering, ruggedization, and systems integration capability.

ARM64 engineered for the Edge
Powered by Federal Frontier Kubernetes Grid
Addresses SWaP-C (Size, Weight, and Power – Cost)



Alpha Research and Technology (ART) is a proven systems integrator providing survivable, rugged, mission- critical airborne and airborne related Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems.

Overview

Our 1U Quad-node rackmount server is designed to reduce footprint in racks by integrating four Computer-on-Modules (COM) into a rugged 1U enclosure. The 1U server is a cost-effective, high performance, and lightweight solution with ruggedization capabilities. At the heart of the system is low power consumption quad 16-Core ARM A72 processors running up to 2.0 GHz with dual-channel DDR4 up to 64GB memory. It has built-in hardware virtualization and provides internal security features (Secure Boot). The system exposes four 10Gbps SFP + (directly from the SoC) port connections and an additional one RJ45 at 1Gb for networking, dual Micro USB UART, and four embedded M.2 NVMe SSD drives for storage. Front access I/O connectors provides for easy installation and maintenance. The unit is designed to meet MIL-STD- 461, MIL-STD-810, MIL-STD-901 and RTCA/DO-160 testing.

Features at a Glance

- 120VAC Power Input
- Quad-NXP LX2160A 16-Core Arm Cortex A72 up to 2.0 GHz
- 64GB of DDR4 Memory Per Processor
- 4 x 10G SFP + Fiber Ports
- 2 x 1G LAN Ports, RJ45
- 2 x USB Console Ports
- 4 x Embedded M.2 NVMe SSD drives up to 3.8TB each

SKU: XEMARM64-quad

Contact your Sales Manager for the latest in configurations and companion products.

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1U Quad CoM 16-Core Server

CONFIGURATION

PROCESSOR

- NXP LX2160A 16-Core ARM Cortex A72 up to 2.0 GHz

MEMORY

- 64GB DDR4 ECC Per Processor (256GB RAM)

HARD DRIVES

- Two (2) Removable M.2 NVMe SSD, two (2) internal M.2 SSD Drive (4 total) slots, up to 64Gbps Transfer Rate (Depending on SSD Speed)

I/O INTERFACE (FRONT)

- 4 x 10G SFP+ Fiber Ports
- 2 x 1G LAN Ports, RJ45 Connectors
- 2 x USB Console Ports

SOFTWARE

- 64-bit Linux (Ubuntu Pro, Flatcar Immutable OS, RHEL)
- Bare Metal or Virtualized KVM Hypervisor
- Eupraxia Labs Federal Frontier FleetEdge
  - Provisions Kubernetes workload clusters for the edge – MicroK8s, K3s, and Mirantis K0s

FEDERAL FRONTIER

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MANAGEMENT

- USB to STM32 for remote management

SECURITY

- Internal security feature (secure boot)

INPUT POWER

- 120VAC
- Less than 300 Watts power consumption

ENVIRONMENTALS

ALTITUDE
Non-Operating
0 to 35,000 feet 0 to 10,668 meters
Operating
IAW RTCA DO-164F Sec. 4 Category A1 modified to 15,000 feet 4572 meters
0 to 35,000 feet 0 to 10,668 meters (3 mins @ 25°C)
Rapid Decompression
RTCA DO-160F Sec. 4 Category A1 8K to 35K

TEMPERATURE
Non-Operating
-20°C to +75°C
Operating
0°C to +60°C

HUMIDITY
Non-Operating
IAW RTCA DO-160F Sec. 4 Category A (95% RH)

VIBRATION
Operating
IAW RTCA DO-160F Sec. 8 Category S Test Curve B (1.48g per axis for 1 hour ea. axis)

SHOCK
Operating
IAW RTCA DO-160F Sec. 7 Category B (6g per axis @ 11ms pulse duration

EMI/EMC
IAW RTCA/DO-160F
- Sec. 18 Category R
- Sec. 19 Category CC
- Sec. 20 Category W
- Sec. 21 Category M

MIL-STD 461F CS101, CS114, CS115, CS116, RS103, CE102, and RE102

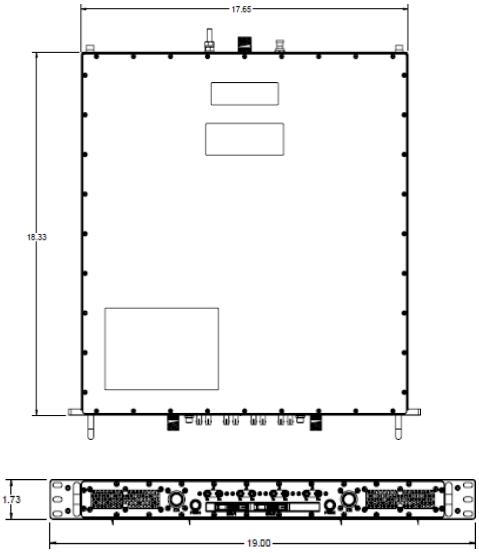
CHARACTERISTICS

GENERAL:

- 1U Chassis
- 18.4" Depth
- Front Panel I/O Connections

Dimensions & Weight:
Height: 1.75 in.
Width: 19 in.
Depth: 18.4 in.
Weight: 10.5 lbs

Mechanical Construction



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AS9100C +ISO9001:2008 CERTIFIED MANAGEMENT SYSTEM

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