NanoX/VITA-74 NanoATR SYSTEM

DATA SHEET

OVERVIEW

The NanoATR™ system integrates an Intel® Atom® or AMD® Fusion® processor in a small, light footprint that optimizes size, weight, power, and cooling. The NanoATR system is ideal for rugged commercial and military field applications.

Leveraging Themis thermal and kinetic management design expertise, the NanoATR boasts a fully sealed, finned, hardened-aluminum conduction-cooled chassis with provisions for two 19 mm and two 12.5 mm payload modules, a rear mounted storage slot, I/O transition panel, and power supply unit. The standard front panel is equipped with circular MIL connectors, but can be customized to meet specific customer requirements.

VITA 74 COMPLIANCE

Compliant to the NanoX/VITA 74 standard, the NanoATR supports a range of field applications that includes mission computing, video processing, sensor data recording, Inertial and GPS systems, network data storage, payload processing, real time control, communications systems, and mobile robotics.

VITA 74 NANOATR APPLICATIONS

NanoATR systems are complete, stand alone computer systems designed for various rugged environments including unmanned vehicles, ground vehicles, man-wearable, shipboard and other environments, where space, weight, power and cost are critical. NanoATR applications include:

- Mission Computer
- Video Processing Unit
- Interial Measurement Unit with GPS
- Interial Measurement Unit with SAASM
- Video Data Recorder
- Data Bus Analyzer/Recorder
- Signal Data Converter/Concentrator
- Network Attached Storage

All standard PC interfaces are available, including MIL-STD-1553, CAN Bus, Discretes, and others. For more information, please contact Themis.

THEMIS VALUE

Themis provides systems integrators and end-users with the best-of-breed computing resources available, and works closely with them to optimize computing solutions that are easy to integrate, yet inexpensive to own and operate. For current information on Themis products, visit www.themis.com.

CPU ARCHITECTURE

- Intel® Atom® or AMD® Fusion® single board computer (SBC)
- Optional trusted platform module

GENERAL

- NanoATR system per VITA 74
- Electrical topology per VITA 46 3U VPX
- Backplane connector family per VITA 57 FMC
- Microsoft Windows® and Linux®

CHASSIS

- Four slot and storage
- Conduction cooled with fins
- 123.95 mm x 104.65 mm x 111.25 mm (W x H x D):
- 4.5 lbs (average)

ENVIRONMENTAL RESILIENCY

- Internally conduction cooled
- -40° C to + 55° C operating temperature
- -40° C to + 71° C optional operating temperature*

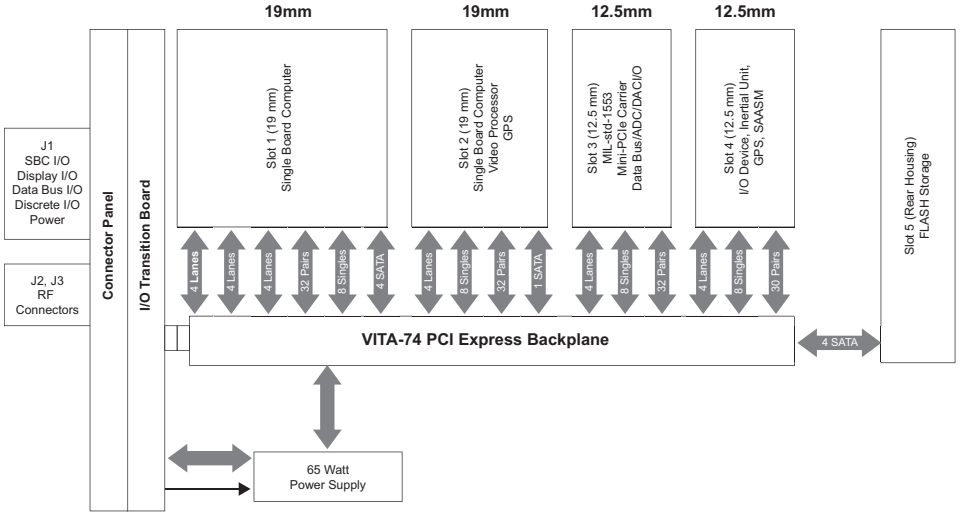
POWER SUPPLY

- +28 VDC (18 to 36 VDC)

MILSPEC

- MIL-STD-810G (shock and vibration)
- MIL-S-901D
- MIL-STD-167

* Themis designs all products to meet or exceed listed data sheet specifications. Some specifications are configuration dependant. Please contact Themis for information specific to your desired configuration requirements.



Typical NanoX/VITA-74 System Topology PCI Express

PARAMETER	OPERATING
System Voltage Input	28 VDC Nominal (9V-36 VDC)
Typical System Power	25 W
Maximum System Power	65 W
Shock	35G @25 ms
Vibration	3.0 Grms, 10 Hz to 2000 Hz
Altitude	-500 to +70,000 Feet, *Note 1*
Temperature	-40° C to +55° C (standard), -40° to +71° (optional)
Input Voltage	16 VCC to 60 VDC
Storage Temperature	-55° C to +85° C
MILSPEC	MIL-STD-810G (Shock and Vibration), MIL-S-901D, MIL-STD 167

Notes

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Nano modules are used in NanoATR systems. Sample modules are briefly described below. Additional modules are being developed to support a range of I/O storage and data encryption requirements. Please consult Themis for additional details.

MODULE	SIZE	DESCRIPTION
Single Board Computer, Intel Atom Core	19 mm	VITA 74 SBC module with single core Atom N455 CPU, Up to 1 GB SDRAM, 2 GB FLASH on CPU Mezzanine, 64 GB FLASH on Basecard, GigE, SATA, USB 2.0, i2C, GPIO, Audio, XGA, and LVDS
Single Board Computer, AMD Fusion	19 mm	VITA 74 SBC modules with several processor modules. 1x or 2x CPU, 80-Core GPGPU, Up to 2 GB SDRAM, 64 GB FLASH on CPU Mezzanine, 64 GB FLASH on Basecard, GigE, SATA 2, USB 2.0. I2C, GPIO, Audio, XGA, Display Port, LVDS, HDMI
GPS Module	19 mm	VITA 74 GPS module with Ashtech MB-100 GPS, GNSS and SBAS.
Video Processor Module	19 mm	VITA 74 Video Processor module utilizing DaVinci Media Processor, TMS320 DSP, Video Co-Processor, GPU, with up to 4 channels of SD or 2 channels of HD video input, 1 channel of video output, video compression and recording, 2 CAN bus, 1 GigE, 1 SATA
IMU/GPS /SAASM Module	12.5 mm	VITA 74 module with a precision MEMS Inertial Measurement Unit, commercial GPS, and provisions for Rockwell Collins SAASM module
MIL-STD-1553 Module	12.5 mm	VITA 74 module with 1 or 2 dual-redundant MIL-STD-1553 channels using DDC Total ACE chipset
Multifunction I/O Module	12.5 mm	Configurable VITA 74 module with combinations of CANBUS, Gigabit Ethernet, analog to digital, digital to analog, discrete I/O, ARINC 429, MIL-STD 1553, and FPGA.

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For More Information
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