NANOATR FEATURES

GENERAL

- VITA-74 NanoATR
- Electrical per VITA-46 3U VPX
- Electrical per VITA-65 OpenVPX
- BP Connectors per VITA-57 FMC
- Microsoft Windows® and Linux®

CHASSIS

- 4 Slot + Storage
- Conduction Cooled with Fins
- Dimensions (W x H x D): 123.95 mm x 104.65 mm x 111.25 mm
- 4.5 lbs (average)

CPU AND MEMORY

- Intel Atom N455 @ 1.66 GHz
- 512 KB DDR2 SDRAM @ 667 MHz

ENVIRONMENTAL

- Conduction Cooled
- Operating Temperature -40° C to + 85° C

POWER SUPPLY

- +28 VDC (18 to 36 VDC)

MILITARY SPECIFICATION

- MIL-STD-810G, MIL-STD-461F

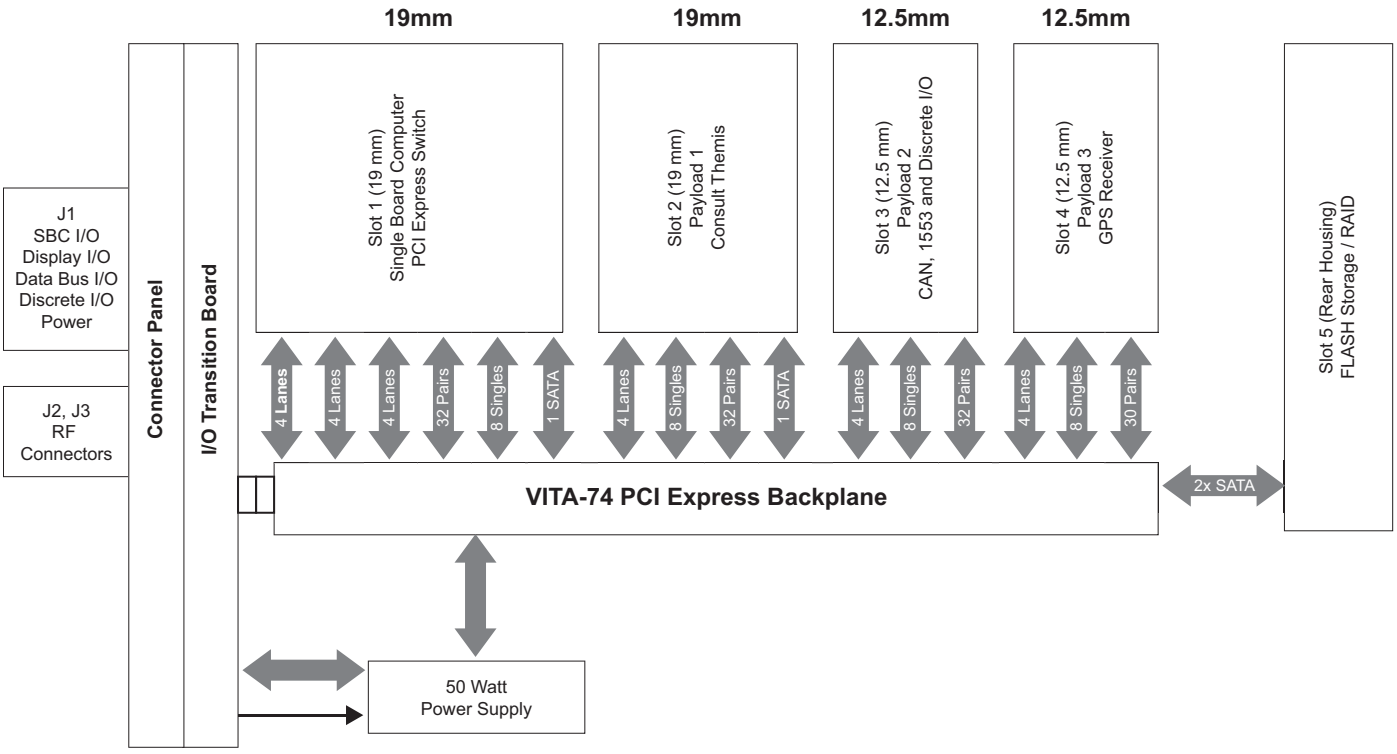
NanoATR

VITA-74 Small Form Factor Computer

The small, light footprint and powerful performance of the NanoATR system make it an ideal solution for rugged commercial and military field application. This compact, mobile standalone rugged computer is designed to survive in demanding environments. Compliant to the VITA-74 standard, the NanoATR supports a myriad of field applications that include mission computing, payload control, real time control, data recording, small storage and communications systems, and mobile robotics.

The NanoATR system has a fully sealed, conduction cooled chassis with two 19 mm and two 12.5 mm payload slots, a storage slot, and a dedicated connector panel-PSU slot in a small, light footprint that optimizes size, weight, power, and cooling. The front panel may be equipped with either circular MIL or standard rectangular connectors.

Leveraging thermal and kinetic management design expertise, the NanoATR boasts a completely sealed, finned, hardened-aluminum conduction-cooled chassis, designed to withstand extreme environmental conditions. The ruggedness of the NanoATR make it ideal of mission-critical applications, while its performance and cost-competitive price make it an attractive choice for commercial and industrial use.



Typical VITA-74 System Topology PCI Express

TECHNICAL SPECIFICATIONS

PARAMETER	DESCRIPTION
System Voltage Input	28 VDC
Typical System Power	25 W
Maximum System Power	50 W *NOTE 1*

Environmentals

PARAMETER	OPERATING *NOTE 2*
Shock	35G @25 ms
Vibration	3.0 Grms, 10 Hz to 2000 Hz
Altitude	3 km
Temperature	-40° C to +85° C (Assumes 2 CFM proximity airflow)
Storage Temperature	-55° C to +85° C
Military Specifications	MIL-STD-810G, MIL-STD-461F

Notes

1. Limited only by fin kit and avalable cooling air flow.
2. Without optional PC-Card External FLASH Mass Storage Device.

NANO MODULES

Nano modules are used in the NanoATR systems. In addition to the modules that are briefly described below, soon to be announced modules include SuperPC, ARM processors, multi-channel MIL-STD-1553 and ARINC-429 modules, and storage with data encryption. Please consult Themis for additional details.

PARAMETER	DESCRIPTION
VITA-74 Single Core Atom Computer Module	VITA-74 CPU module with single core Atom processor with up to 1GB SDRAM, 2GB FLASH, PCIe, GigE, SATA 2, USB 2.0, I2C, GPIO, audio, and conduction cooling.
Discrete I/O Module with 1553 and CAN	VITA-74 high-density, general-purpose I/O module with differential discrete and analog I/O, MIL-STD-1553, and CANbus.
Graphics Processing Module	VITA-74 graphics processor with video frame grabber, overlay, and video out.
Mass Storage FLASH Module	Removable SATA 2 mass storage module with up to 1 TB SLC FLASH.
High-Speed Serial Module	VITA-74 high-speed serial module, configurable to RS-232, RS-422/485, and MIL-STD-188-114A.
Global Positioning System Receiver	VITA-74 dual-frequency GPS/GNSS receiver module.

VITA-74 SYSTEM APPLICATION EXAMPLES

MODULE	MODULE TYPE
TSBCX	Single Board Computer with PCIe Switch
TSBC	Single Board Computer
TGA	Graphics Processing Assembly
TIO BUS	Discrete I/O Module + 1553 + CAN
TSM	Mass Storage FLASH Module
RAID	RAID Module (RAID 0, 1, or 5) with FLASH
SDR	Software Defined Radio
HSS	High Speed Serial Module
RFD	Removable FLASH Disk
GPS	Global Positioning System Receiver

APPLICATION	SLOT 1	SLOT 2	SLOT 3	SLOT 4	STORAGE
Digital Map Display Processor	TSBCX	TGA	TIO BUS		64 GB
Avionics Data Recorder	TSBCX		TIO BUS	TGPS	256 GB
SIGINT Recorder EW Console	TSBCX	SDR	TIO BUS	TGPS	1 TB RAID
Mission/Payload Computer	TSBCX	TSBC	TIO BUS	TIO BUS	64 GB

THEMIS NANO SMALL FORM FACTOR SOLUTIONS

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. All standard PC interfaces are available, plus others such as MIL-STD-1553, CAN Bus, Discretes, and others. For more information, please contact Themis. Drivers and Board Support Packages are available for Linux® and Windows®. Please contact Themis for information on using other Real Time Operating Systems such as VxWorks®, Integrity® and LynxOS®.

THEMIS VALUE

Themis provides systems manufacturers and end-users with the most modern, best of breed computing resources available. Package and performance scale from small form factor embedded servers to bladed servers. We listen, understand, and work closely with customers to optimize computing solutions that are easy to integrate, inexpensive to own and operate, and that achieve the right balance between standard commercial technology, environmental resiliency, and optimized space, weight, and performance.

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