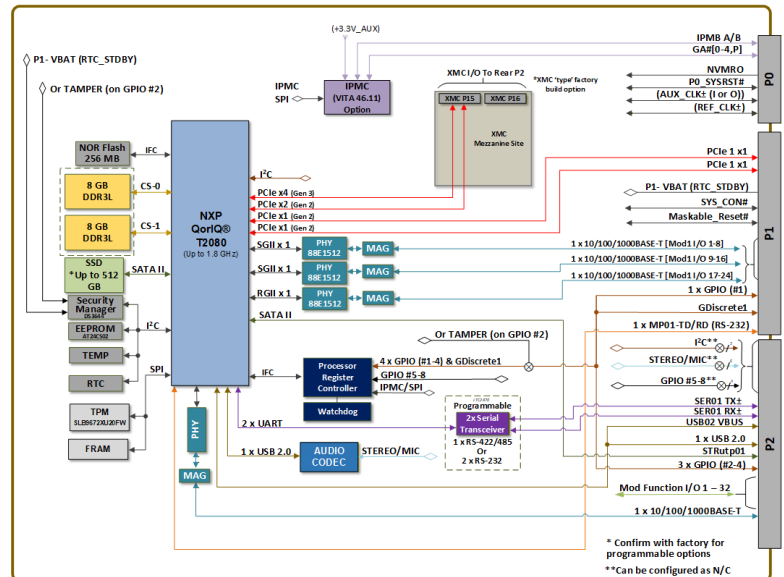




68PPC3A 3U OpenVPX™ Single Board Computers 3U OpenVPX™ SOSA™ Aligned PowerPC SBC

The 68PPC3A is a 3U OpenVPX, NXP®, QorIQ® T2080 quad-core processor, PowerPC-based, Single Board Computer (SBC) that delivers high-performance embedded computing in demanding environments such as aerospace systems, vehicle platforms, energy control, and advanced industrial or mobility applications. Optimized for size, weight, power, and cost (SWaP-C) efficiency, the 68PPC3A combines reliable processing capability with flexible network connectivity and modular I/O expansion.

Featuring a single Configurable Open Systems Architecture® (COSA®) module site, the 68PPC3A supports rapid customization for a variety of sensor, control, and communication interfaces — enabling faster design cycles and scalable product development. Built on NAI's proven Configurable Open Systems Architecture® (COSA®), the 68PPC3A provides flexible I/O options through a single intelligent function module site — enabling developers to tailor the system to specific interface requirements without extensive hardware redesign. Whether integrating communication links, control signals, or sensor interfaces, the COSA framework simplifies customization and accelerates system deployment.



Features Summary

- **3U OpenVPX (ANSI/VITA 65) SOSA™ Aligned Profiles Supported:**
 - SLT3-PAY-1F1F2U1TU1T-14.2.16
 - Supports:
 - Data Plane: PCIe 2 x1 (Gen 2)
 - 3 x 10/100/1000 Base-T
 - Control Plane (P2): 1 x 1GBase-T
 - 1 x USB 2.0
 - Off-board Storage I/F: SATA II
- **Processor/Memory**
 - NXP QorIQ® T2080 Quad Core e6500
 - 16 GB DDR3L DDR (2 banks)
 - Up to 512 GB SSD
 - Backup-boot NOR FLASH BIOS
- **Security / Cybersecurity (Options)**
 - FIPS 140-3 up to Level 3 Design Support
 - Crypto-key storage
 - Secure Boot
- **Motherboard Peripheral I/O**
 - 8 x GPIO (4x + 4x optional)
 - Headset & speaker (optional)
 - I2C (optional)
 - Additional 1 x 10/100/1000 Base-T (optional)
 - 1 x 422/485 or 2 x RS-232 Ports
 - RS-232 Maintenance Port
- **IPMC Support**
 - VITA 46.11 Tier-2, basic, compatible (configured option)
- **Smart I/O Function (NAI-XMC Option)**
 - Support for 1 independent module (currently optimized for NE6 module)
- **Operating System Support**
 - VxWorks® 7, Linux®, NXP Generic Linux Distro, DDC-I Deos™, Xilinx® Peta Linux, Green Hills INTEGRITY-178 tuMP
- **Background Built-in-Test**
 - Continuous BIT (as applicable)
- **Operating Temperature***
 - Commercial: 0°C to +55°C
 - Rugged: -40°C to +85°C
- **Mechanical Options (ANSI/VITA 48)**
 - Air-cooled; 3U, 5 HP/1.0" pitch (Pending)
 - Conduction-cooled; 3U, 1.0" pitch
- **Commercial or Rugged Applications**
- **Power***
 - 18 W (est.) (excluding NAI XMC/Function module power)

*Note: Maximum performance and temperature ranges are dependent on system environment, utilization, and thermal conditions; sustained operation at peak loads may not be supported – refer to documentation to specific guidelines

Select up to 1 function for your application (with NAI-XMC configuration option) (see Note)

For a full listing of available smart functions and detailed specifications please visit <https://www.naii.com/functions>

NOTE: NAI-XMC is currently optimized for the NE6 1553 Function Module; for all other functions, please contact factory for additional details.

I/O Modules
Digital IO Including Differential, Discrete, Relay, TTL/CMOS, Variable Reluctance
Measurement Modules
LVDT / RVDT Measurement, IRIG Timecode Receiver and Generator, Thermocouple and RTD Measurement, Synchro / Resolver Measurement, Strain Gauge Measurement
Communication Modules
ARINC 429/575, CAN bus, Ethernet NIC, MIL-STD-1553, MIL-STD-1760, IEEE- 1394b (FireWire), Serial RS232/422/485
Combination Modules
Multiple Choices of Combinations of I/O and Communications
SSD Expansion Memory
Multiple Choices of High-Capacity SATA SSD Expansion Memory

Architected for Versatility

NAI's Configurable Open System Architecture™ (COSA®) offers a choice of over 100 smart I/O, communications, or Ethernet switch functions, providing the highest packaging density and greatest flexibility ruggedized embedded product solutions in the industry. Preexisting, fully-tested functions can be combined in an unlimited number of ways quickly and easily.

One-Source Efficiencies

Eliminate man-months of integration with a configured, field-proven system from NAI. Specification to deployment is a seamless experience as all design, state-of-the-art manufacturing, assembly and test are performed - by one trusted source. All facilities are located within the U.S. and optimized for high-mix/low volume production runs and extended lifecycle support.

Product Lifecycle Management

From design to production and beyond, NAI's product lifecycle management strategy ensures the long-term availability of COTS products through configuration management, technology refresh and obsolescence component purchase and storage



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Certified Small
Business

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