# 68PPC2 3U OpenVPX™ SBC with Two I/O Function Module Slots

Over 70 different functions to choose from

Configure to Customize

The 68PPC2 is a 3U OpenVPX™ NXP® PowerPC based Single Board Computer that can be configured with up to two NAI smart I/O and communications function modules. Ideally suited for rugged Mil-Aero applications, the 68PPC2 delivers off-the-shelf solutions that accelerate deployment of SWaP-optimized systems in air, land and sea applications.
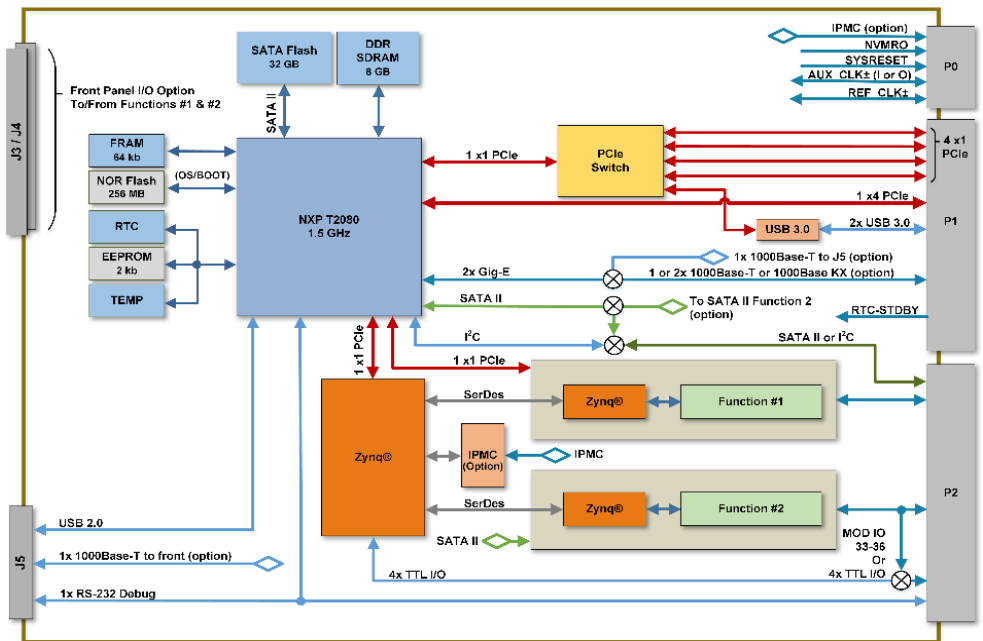
F e a t u r e s

- **Slot Profile: SLT3-PAY-2F2U-14.2.5**
  - **Data plane: 1x4 & 4x1 PCIe**
  - **Control plane: 2x 10/100/1000 Base-T or 2x 1000 Base-KX**
- **NXP QorIQ® T2080 Quad Core e6500 Processor @ 1.5 GHz**
- **8 MB DDR3 SDRAM**
- **32 GB SATA II NAND Flash**
- **< 20 W power dissipation (est./typ.) (not including module power)**
- **Up to 2 independent smart I/O function modules supported**
- **PCIe interface to function slot #1 (e.g. for 2 additional Gig-E ports option)**

- **SATA II interface to function slot #2 (e.g. for 256 GB expansion function option)**
- **Front and/or rear I/O**
- **1x USB 2.0, to front maintenance J5**
- **2x USB 3.0, to rear I/O**
- **I²C bus to rear I/O**
- **1x RS-232 console port; to front maintenance J5 and rear I/O**
- **4x TTL I/O to rear I/O (option)**
- **External SATA II interface (option)**
- **IPMC Support (configured option)**
  - **VITA 46.11 Tier-2 compatible**
- **Wind River®, VxWorks®, DDC-I Deos™ or Linux® BSP/OS support**
- **Continuous Background Built-in-Test (BIT) (as applicable)**

- **COSA® Architecture**
- **Intelligent I/O library support included**
- **VICTORY Interface Services (Contact factory)**
- **Commercial or rugged applications operating temperature**
  - **Commercial: 0° C to 70° C**
  - **Rugged: -40° C to 85° C**
- **Mechanical Options**
  - **Air Cooled; 0.8" & 1.0" pitch**
  - **Conduction Cooled; 0.8" pitch**

Select up to 2 independent functions for your application

I/O		Measurement & Simulation	
A/D	±1.25 VDC to ±100 VDC or 0-25 mA; 16 or 24-Bit; 12 or 16 Ch.	Synchro/Resolver-Digital	16-Bit; ±1Arc-Min accuracy; 4 Ch. Measurement)
D/A	±1.25 VDC to ±80 VDC or ±25 mA to 100 mA; 16-Bit, 4-16 Ch.	LVDT/RVDT-Digital	16-Bit resolution; 4 Ch. (Measurement)
Discrete	0 to 60 VDC; Sink, source or push/pull; up to 24 Ch.	Digital-Synchro/Resolver	16-Bit; Up to 3 VA; 1-3 Ch. (Simulation)
Isolated Discrete	0 to ±80 VAC or VDC; 16 Ch.	Digital-LVDT/RVDT	16-Bit; Up to 3 VA; 1-3 Ch. (Simulation)
Relay	SPDT; 4 Ch.	AC Reference	2 to 115 V$_{RMS}$; Up to 6 VA; 1 Ch.
TTL	0 to 5.5 VDC; 24 Ch.	RTD	16-Bit; 2, 3 or 4-wire; 8 Ch.
Differential Transceiver	Up to ±12V; 422/485 Pulse Gen/Meas; 16 Ch.	Thermocouple	J, K, T, E, R, S, B, N; 4 Ch.
Communications		Strain Gage	16-Bit; 4 Ch.
MIL-STD-1553	Quad Ch. Dual Redundant; Transformer or Direct	Memory Expansion	
RS-232/422/423/485	4 Ch.	SATA II Flash**	Up to 256 GB
ARINC 429/575	12 Ch.		
CANBus	8 Ch.		
Ethernet Interface*	2x 10/100/1000 Base-T		
Time Triggered Ethernet (TTE)*	Single Port, Triple Redundant; TTE SAE AS6802, ARINC664 Part 7/AFDX or IEEE 802.3 (best effort)		

*Function slot 1 only
**Function slot 2 only

Architected for Versatility

NAI's Configurable Open System Architecture™ (COSA®) offers a choice of over 70 smart I/O, communications, or Ethernet switch functions, providing the highest packaging density and greatest flexibility of any 3U SBC in the industry. Preexisting, fully-tested functions can be combined in an unlimited number of ways quickly and easily.

Board Support Package and Software Support

The 68PPC2 includes BSP and SDK support for Wind River® Linux and VxWorks®. In addition, software support kits are supplied, with source code and board-specific library I/O APIs, to facilitate system integration. Each I/O function has dedicated processing, unburdening the SBC from unnecessary data management overhead.

Background Built-In-Test (BIT)

BIT continuously monitors the status of all I/O during normal operations and is totally transparent to the user. SBC resources are not consumed while executing BIT routines. This simplifies maintenance, assures operational readiness, reduces life-cycle costs and— *keeps your systems mission ready.*

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 in the U.S. and optimized for high-mix/low volume production runs and extended lifecycle support.

Product Lifecycle Management

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

Specifications are subject to change without notice. All product and company names are trademarks or registered trademarks of their respective holders.

Made in the USA
Certified Small Business