

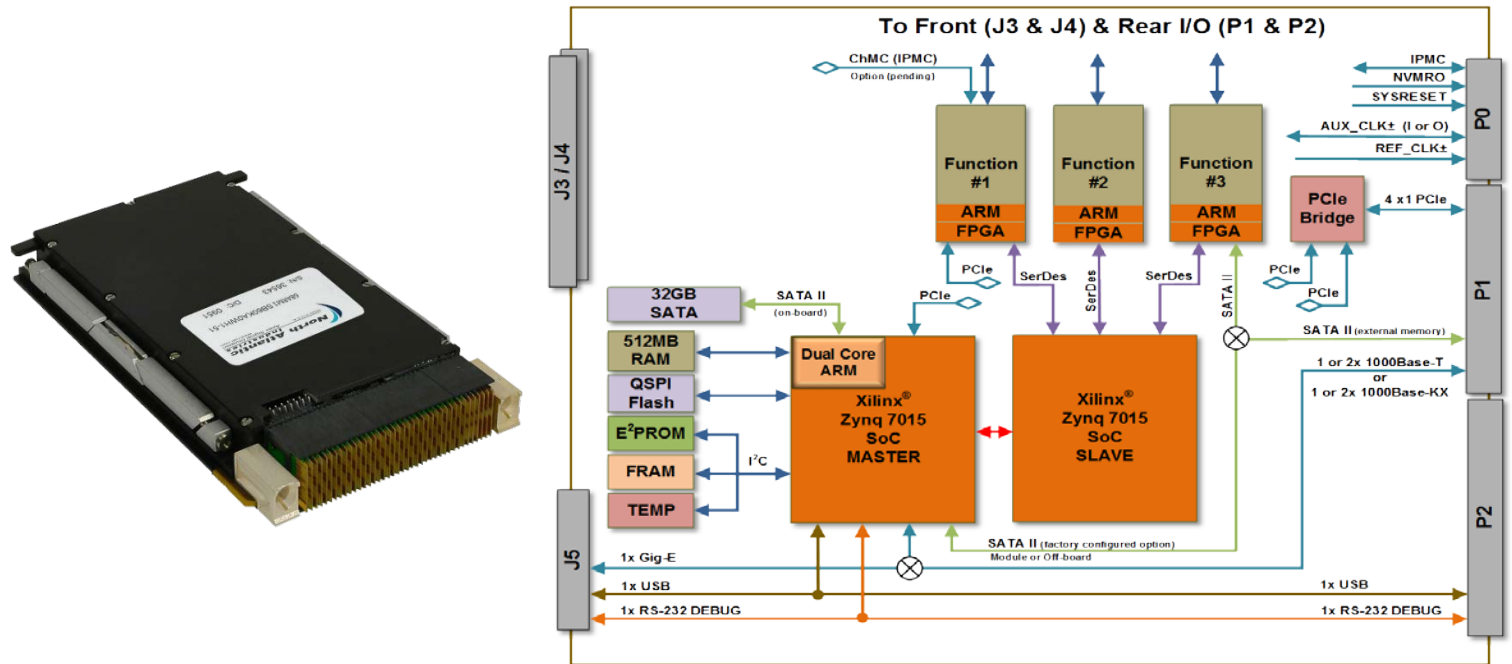


# 68ARM1 3U OpenVPX™ SBC with Three I/O Function Module Slots

*Over 70 different functions to choose from*

## Configure to Customize

The [68ARM1](#) is a 3U cPCI ARM® Cortex®-A9 Single Board Computer that can be configured with up to three NAI smart I/O and communications function modules. Ideally suited for rugged Mil-Aero applications, the 68ARM1 delivers off-the-shelf solutions that accelerate deployment of SWaP-optimized systems in air, land and sea applications.



## Features

- OpenVPX™ Profile: SLT3-PAY-1F2U-14.2.12
  - Data plane: 4x1 PCle
  - Control plane: 2x 10/100/1000 Base-T or 2x 1000 Base-KX
- ARM® Cortex® -A9 Dual Core 800MHz Processor
- 512 MB DDR3 SDRAM
- 32 GB On-Board SATA II NAND Flash available
  - On-Board module 3 or
  - External SATA II port access
- < 10 W MB power dissipation
- Up to 3 independent smart I/O function modules supported
- Front and/or rear I/O
- 70+ modules to choose from
- Commercial or rugged applications
- Independent x1 SerDes interface to each function module slot
- 2x 10/100/1000 Base-T Ethernet; 2 to rear or 1 to rear and 1 to front I/O; or 2x 1000Base-KX to rear I/O
- I²C bus to rear I/O
- 1x USB 2.0 port to rear or front I/O
- 1x RS-232 to front or rear I/O
- Operating temp: 0° C to +70° C or Rugged -40° C to +85° C
- Wind River®, VxWorks® and Xilinx® PetaLinux OS support
- Continuous Background Built-in-Test (BIT)
- Intelligent I/O library support included
- COSA® Architecture
- VICTORY Interface Services (Contact factory)

### Select up to 3 independent functions for your application

| I/O                                      |   | Measurement & Simulation                 |  |
|--|---|--|--|
| <a href="#">A/D</a>                      | ±1.25 VDC to ±100 VDC or 0-25 mA; 16 or 24-Bit; 12 or 16 Ch | <a href="#">Synchro/Resolver-Digital</a> | 16-bit; ±1Arc-Min accuracy; 4 Ch             |
| <a href="#">D/A</a>                      | ±1.25 VDC to ±80 VDC or ±25 mA to 100 mA; 16-Bit, 4-16 Ch   | <a href="#">LVDT/RVDT-Digital</a>        | 16-bit resolution; 4 Ch                      |
| <a href="#">Discrete</a>                 | 0 to 60 VDC; Sink, source or push/pull; up to 24 Ch         | <a href="#">Digital-Synchro/Resolver</a> | 16-bit; Up to 3 VA; 1-3 Ch                   |
| <a href="#">Isolated Discrete</a>        | 0 to ±80 VAC or VDC; 16 Ch                                  | <a href="#">Digital-LVDT/RVDT</a>        | 16-bit; Up to 3 VA; 1-3 Ch                   |
| <a href="#">Relay</a>                    | SPDT; 4 Ch  | <a href="#">AC Reference</a>             | 2 to 115 V <sub>RMS</sub> ; Up to 6 VA; 1 Ch |
| <a href="#">TTL</a>                      | 0 to 5.5 VDC; 24 Ch   | <a href="#">RTD</a>                      | 16-bit; 2, 3 or 4-wire; 8 Ch                 |
| <a href="#">Differential Transceiver</a> | Up to ±12V; 422/485 Pulse Gen/Meas; 16 Ch                   | <a href="#">Thermocouple</a>             | J, K, T, E, R, S, B, N; 4 Ch                 |
| Communications                           |   | <a href="#">Strain Gage</a>              | 16-bit; 4 Ch                                 |
| <a href="#">MIL-STD-1553</a>             | Quad Ch Dual Redundant; Transformer or Direct               | Memory Expansion                         |  |
| <a href="#">RS-232/422/423/485</a>       | 4 Ch  | <a href="#">SATA II Flash**</a>          | Up to 256 GB                                 |
| <a href="#">ARINC 429/575</a>            | 12 Ch   |  |  |
| <a href="#">CANBus</a>                   | 8 Ch  |  |  |
| <a href="#">EM1*</a>                     | 2-Port Ethernet NIC   |  |  |

\*Function slot 2 only

\*\*Function slot 3 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 68ARM1 includes BSP and SDK support for Wind River® Linux, VxWorks® and Xilinx® PetaLinux tools. 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.

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