

High Thermal Integrated Conduction Cooled Assembly

CONNECT AND PROTECT

Cool Your VPX Plug-In Boards without a Major Redesign

OVERVIEW

Designed for rugged conduction cooled assemblies (CCAs) in VPX systems, the High Thermal Integrated CCA design innovatively removes a thermal interface resulting in **up to 40% improved module thermal resistance** depending on the configuration.

The interface is removed by machining nVent SCHROFF's best-in-class Calmark High Thermal Sawtooth Card-Lok design into the module frame, cost effectively optimizing size, weight, and power (SWaP) requirements in Military and Aerospace systems.

Offering at a glance:

- Meets the latest VITA standards
- Designed to meet SWaP requirements in rugged environments
- Best in class thermal performance in a single package

- 1 Card-Lok Machined Into Frame**
 - Eliminates a thermal interface
 - High Thermal Sawtooth design maximizes performance
- 2 Extractors**
 - Broad selection of rugged metal ejectors to meet extraction force needs
- 3 Rugged Hardware**
 - Meet the latest VITA standards
 - High performance and 2nd Level Maintenance options



- 4 Conduction Cooled Assembly**
 - Milled clamshell or assembly
 - Follows VITA standards
 - Downloadable CAD files available
 - Assembly and kitting
- 5 Other Components**
 - EMC Gaskets
 - Thermal pads
 - ESD Packaging
 - Connectors



FEATURES AND BENEFITS

• Experienced Design Team

Partner with nVent SCHROFF's experienced engineering team to solve thermal challenges before the first prototype is machined. Think of the nVent SCHROFF engineering team as an extension of your design team. Simply provide your board layout and our engineers can recommend a thermally efficient CCA design for your application.

• Achieve the Highest Quality

All products are built in AS9100 compliant facilities.

• Simplify Your Supply Chain

In addition to any customizations to the frame, manage the entire assembly including Card-Loks, extractors, thermal gap pads, and assembly hardware with a single SKU.

- **Meet Project Deadlines**

CAD files meeting VITA standards available for download to quickly make modifications based on board layout that can be submitted for a quote. Quick turn prototyping is available.

- **Best-In-Class Performance, Cost Effectively**

Get best-in-class thermal performance cost effectively when compared to moving from conduction cooled designs to liquid cooling solutions.

APPLICATIONS

- C5ISR
- Combat aircraft systems
- Drones/UAV
- Space systems
- Rugged VPX systems where thermal performance is a concern
- Options for second level maintenance

RUGGED SOLUTIONS FOR LAND, AIR, SEA, AND SPACE



TECHNICAL FEATURES

- Meets VITA 48.2
- 3U or 6U configurations
- Primary or secondary side card-lok mounting
- Frame, Card-Loks, extractors can be customized to meet application requirements
- Hardware components can be kitted and tagged per customer requirements
- Options for space applications to reduce chance of FOD such as Belleville washers or Ethone ink part marking

To Learn More Chat with us or visit:

<https://schroff.nvent.com/en-us/solutions/schroff/applications/rugged-conduction-cooled-assemblies-and-modules>

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