# Case Study - Conduction Cooled Assembly

CONNECT AND PROTECT

## Aerospace & Defense

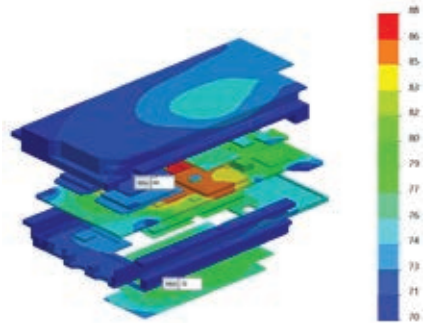
### REQUIREMENT

A United States-based customer that provides expertise and technology to their customers in the aerospace and defense industry came to nVent SCHROFF for a custom project working with a VPX small form factor on a conduction cooled assembly (CCA).

### CHALLENGE

The customer asked us to arrange a CCA fit a higher-than-normal level of plugs onto the Open VPX standard small form factor of the CCA. The nVent SCHROFF design engineers used our existing online templates and their expertise to modify our standard CCA for the customer's needs. We designed custom injectors/ejectors that were needed because of the internal size of the CCA and its unique application along with our Card-Loks.

### SOLUTION



We used our capabilities surrounding thermal analysis – Solidworks and Floworks testing – to calculate the needed thermal gap pad compression and recommend the best thermal transfer material for their application. nVent SCHROFF engineers also created custom injector/ejector and Card-Loks for this specific application. Because the CCA we designed for them was so unique we created a 3D printed model for the customer to examine and use for fit tests. We were able to fit their board into a modified VPX 48.2 CCA, provide the thermal transfer they needed for their boards, and conduct thermal testing for our customer's specific needs.

| Project Details | |
|---|---|
| Location | North America |
| Type of system | Conduction Cooled Assembly |
| Technology | Card-Loks, injectors/ejectors, thermal analysis |
| Product scope | Conduction cooled assembly for Open VPX standard |
| Date / Time frame | 2020 |

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