

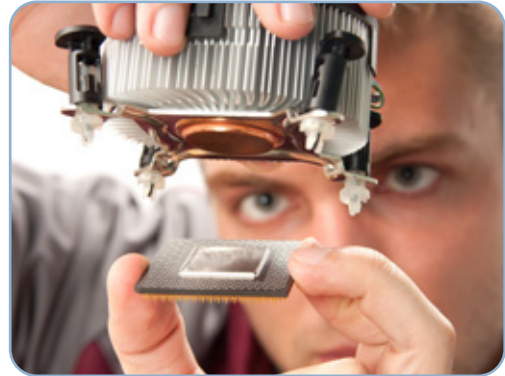
Ruggedized Module Development

Enventure enabled a prominent manufacturer of High Speed Data Acquisition Cards to develop ruggedized XMC modules for VPX applications.



About the Client

The Client is a leading provider of board-level hardware products, which integrate the best analog I/O and reconfigurable FPGAs for data acquisition and signal processing applications. The company manufactures a variety of products which operates synergistically.



Business Need

The Client's existing products needed to be adapted to ruggedized field environment usage. The requirement came up because the Client was now planning to offer the production to the Defense sector. A series of plug-in adapters needed to be developed to interface the existing mezzanine boards, to the VPX Module.



Why Enventure

The Client chose Enventure, based on the company's unique advantages, such as:

- In-depth knowledge of ruggedized module / sub-rack design, confirming to VPX – REDI standards
- Several years of experience in providing engineering solutions to the electronics industry
- Ability to provide turnkey mechanical engineering services, including analysis & prototyping

The Solution

Enventure developed a series of 3U VPX adapter cards with backplane connectors. This PCB mezzanine stack was then evaluated to firm up the mechanical packaging and thermal specifications.

Based on the study and specifications, custom covers and mechanisms were developed to suit different parameters like cooling and levels of maintenance. Advanced design verifications were conducted using CAE tools, to reaffirm that the design intent was being met. Further, detailed drawings and prototypes were developed by the team.

The VPX-XMC modules were developed for both Conduction and Air cooled sub-racks and the mechanicals of the modules were designed in confirmation to VPX VITA “Ruggedized Enhanced Design Implementation” (REDI) standards.



Benefits

Enventure's involvement in the project offered the following benefits to the Client:

- Quick adaption for Defense and Aerospace markets
- Two level maintenance
- 3U 0.8 inch modules smallest form factor
- Adaptable to both Air and Conduction cooled
- Prototype support
- Fast project turn around
- Comprehensive solution



Conclusion

The Client awarded the project to Enventure based on the team's experience in providing engineering solutions to electronics industry as well as expertise in ruggedized module / sub-rack design. The success of the relationship has enabled Enventure to establish itself as the Client's preferred partner for their engineering requirements.



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