Ensemble 6000 Series OpenVPX
High-End, Wide-Aperture, Embedded Radar Application

Your Challenges

Aerospace and defense systems depend upon high-power, wide-aperture radar applications to detect and track objects on the battlefield and deliver actionable information to the warfighter. These applications face serious challenges with too much data, not enough analysts, lack of insight, and the dire consequences of undetected IEDs leading to loss of life.

Your Solution Requirements

The volume of incoming sensor data is growing exponentially as radar technology continues to advance. Deployment of the processing solution close to the sensor requires a high degree of ruggedization. Multiple I/O streams (made up of both legacy and next-generation protocols) must be integrated with the signal processing solution. As the data rates increase and requirements for new capabilities become manifest, platform scalability is difficult to achieve with older technologies.

Our Approach

Let our Services and Systems Integration Group extend your engineering organization's capabilities and complement your design and development process. The Mercury SSI group gives you access to our longstanding experience and our deep knowledge of technology selection, system integration, software performance, and multi-vendor integration. Our engineers are experts at board design and development (including non-standard form factors), thermal analysis, algorithm, middleware, and BSP driver development. We work with you to design, develop, and/or implement the right solution for your needs without vendor bias, becoming a cost-effective, real-time extension of your team, and enabling you to maximize your resources and minimize your time to deployment.

Our Unique Solution

The Ensemble™ 6000 Series dense processing solutions have been developed in accordance with OpenVPX™ design principles. The Ensemble IO Mezzanine Series IOM-140 SFPDP (Serial Front-Panel Data Port) XMC module bridges radar in-phase and quadrature-phase (I&Q) data on to the high-speed serial RapidIO® fabric, allowing incoming data to flow directly to any arbitrary processor without the need to buffer the streams locally.

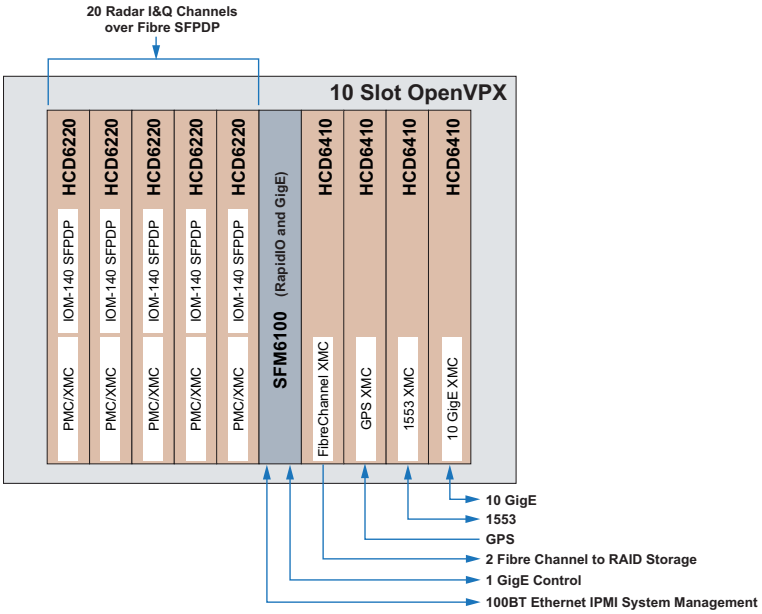
Multiple physical planes for data, control, and system management can easily scale to handle the most challenging radar problems. Numerous standard I/O sites allow easy integration of a variety of mezzanine cards to support any required interfaces. The Ensemble 6000 Series is available at various levels of ruggedization, including air-cooled and conduction-cooled formats.

Ensemble™ 6000 Series OpenVPX™ products deliver a complete, standards-driven, scalable solution that can handle the most challenging needs of radar applications.

Specifications

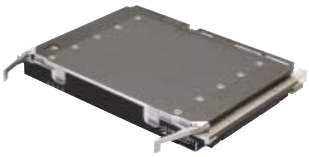
Operating temperature	-40°C to +71°C
Humidity	0 -100%
Vibration (shock)	50g, z-axis; 80g x-y axes; 11 ms half sine
Operating altitude	0-70,000 ft
Salt/fog	10% NaCL
Weight	<250 lb
System power	2000W
Ruggedization	Conduction-cooled

Components and Chassis Elevation



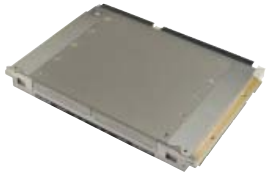
Ensemble 6000 Series OpenVPX SFM6100 Module
Quantity: 1

Ensemble 6000 Series OpenVPX HCD6410 Module
Quantity: 4

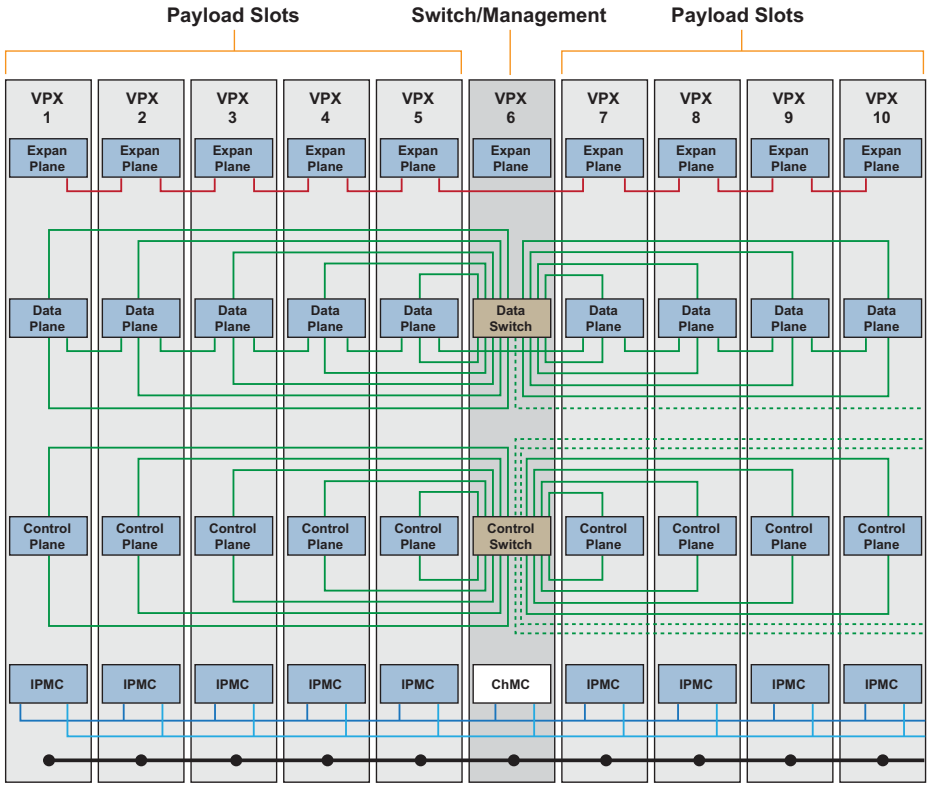


Ensemble IO Mezzanine Series IOM-140 sFPDP XMC
Quantity: 5

Ensemble 6000 Series OpenVPX HCD6220 Module
Quantity: 5



System Configuration



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