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Kontron VX3810

3U VPX XMC Carrier

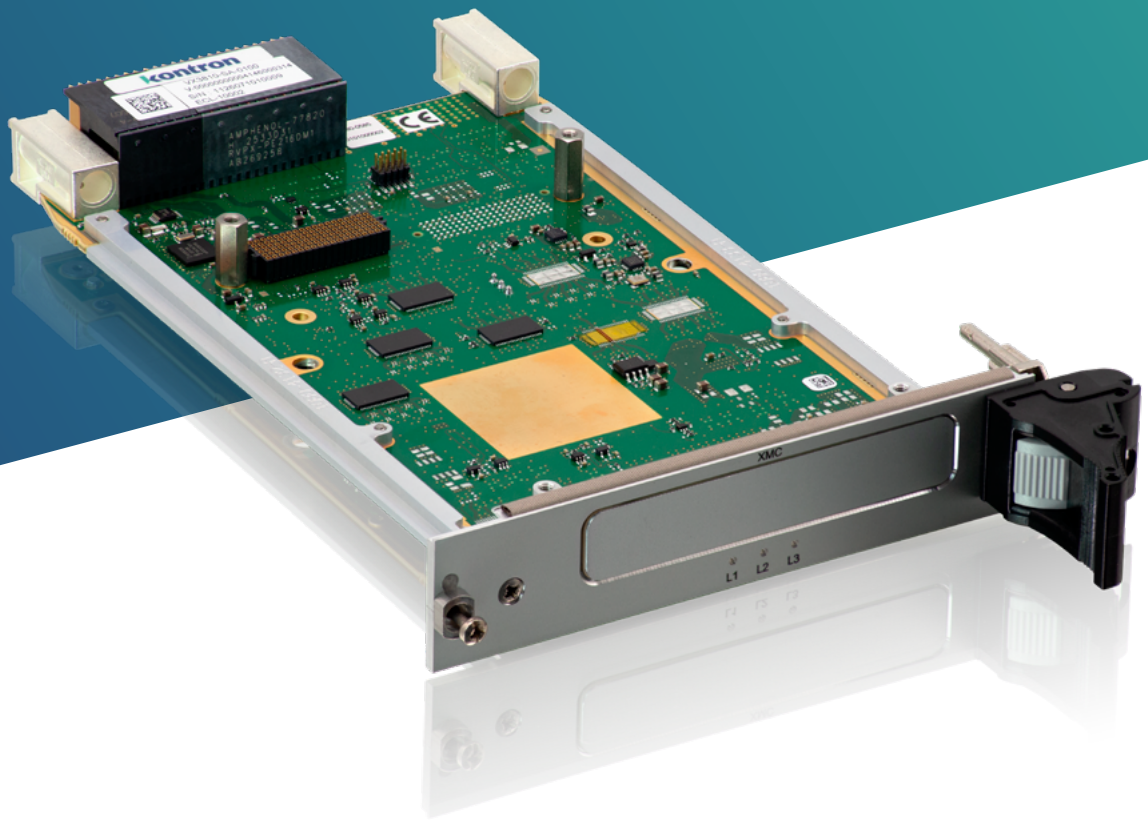
Designed to support a wide range of XMC modules in VPX systems, including dedicated field-bus, graphics and AI computing modules.
XMC carrier Rugged Air & Conduction-cooled variants, designed in accordance with SOSA® Standard.

8x PCIe Gen4

VITA 42 Option

VITA 61 Option

SOSA® Design Alignment



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VX3810 3U VPX XMC Carrier Highlights

The VX3810 is a rugged 3U VPX XMC carrier board concept designed for high-power XMC modules. It is well suited for modern defense and rugged platforms where XMC modules cannot be integrated on the SBC due to power consumption constraints.

Key Features

- x8 PCIe up to Gen4
- XMC connector options compliant with VITA 42 and VITA 61 (VITA 88 support available on request).
- Available in standard air-cooled and rugged conduction-cooled variants.
- Developed in alignment with the SOSA® Technical standard

Designed for rugged defense platforms, the VX3810 supports a wide range of XMC modules in VPX systems, enabling the integration of dedicated field-bus I/Os such as CAN bus, ARINC, MIL-STD-1553, and other interfaces. It can also host graphics XMC modules with SDI I/Os, or other video and AI computing capabilities.

The SOSA® Architecture Booster

The VX3810 design is available with the following VITA65 OpenVPX I/O intensive profiles:

- Slot Profile: SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-0
- Module Profile: MOD3p-PAY-1F1U1S1S1U1U2F1H-16.6.11-4

Being developed in compliance with SOSA®-aligned OpenVPX profiles, the module benefits from profile interoperability and open-system integration practices, reducing both development risk and platform lifecycle costs for integrators.

Note: The SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-0 slot profile does not include dedicated XMC I/O allocation. For XMC I/O support, the VX3810 provides an provision via the P2 connector. Contact Kontron for details.

Reliability and Robustness

The VX3810 is available in both air-cooled and conduction-cooled variants for deployment in harsh embedded environments. The air-cooled version is optimized for lab, shelter, and vehicle applications where forced-air cooling is available, while the conduction-cooled version is specifically intended for the most rugged, mission-critical deployments, leveraging VITA 48-style plug-in unit mechanics for operation in highly constrained and severe conditions.

Depending on configuration and XMC thermal design, the product family targets extended operating temperatures up to -40°to +85°C at the card edge.

Typical Applications

Mission Computer I/O Expansion

Extend VPX processing systems with mission-specific XMC interfaces, including MIL-STD-1553B, ARINC-429, RS-232/422/485 serial links, CAN bus, and discrete I/Os.

Tactical Communications

Add RF and communication payloads to VPX platforms using dedicated XMC modules.

Video Acquisition

Acquire sensor and video data via SDI and GigE Vision XMC modules.

AI & Sensor Fusion

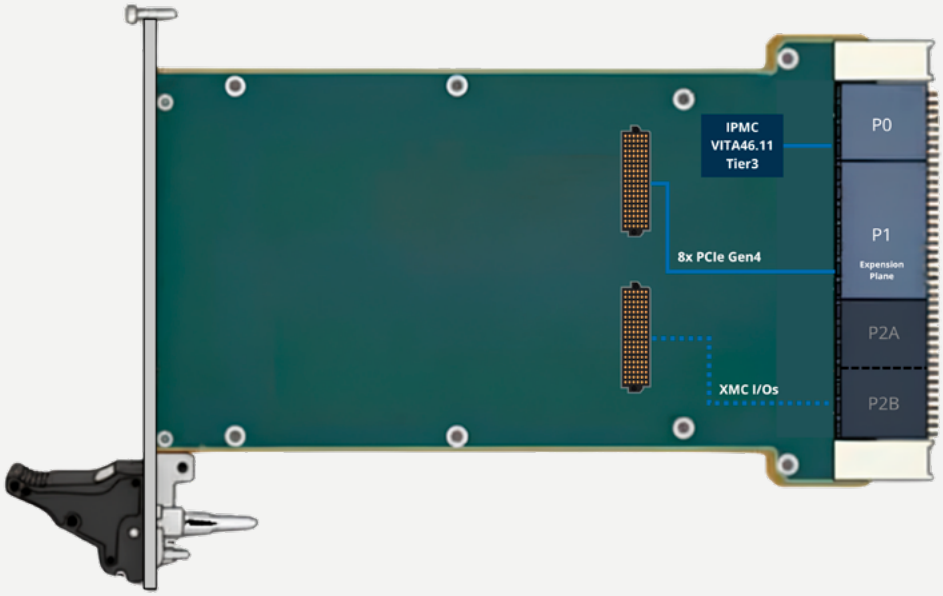
Accelerate AI inference and FPGA-based sensor processing with specialized XMC modules.

High-Speed Networking

Add 10 GbE and TSN via XMC modules.

3U VPX XMC Carrier

Block Diagram



3U VPX XMC Carrier

Technical Information

Standard Profile	Slot Profile	SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-0
	Module Profile	MOD3p-PAY-1F1U1S1S1U1U2F1H-16.6.11-4
	XMC I/O (option)	VITA 46.9 P2-X16s+X8d (ask Kontron)
XMC Interface	PCIe Bus Width	x8 PCIe up to Gen4
On-Board Features	On-Board Features	IPMI controller for VITA46.11 Tier3 support and out-of-band system management.
	Sensors	Voltage, temperature and current sensors
Power	XMC Power Consumption	Up to 15 W; contact Kontron for a higher power budget.
Compliance		CE; REACH/ROHS

Environmental Specification

	SA - Air Cooled Version	**RC - Rugged Conduction Cooled Compliant**
Conformal Coating	No	Standard
Airflow	TBC, it will depend on the XMC design.	na.
Cooling Method	Convection	Conduction
Operating Temperature	0 °C to +55 °C	-40°C to +85°C
Storage Temperature	-40 °C to +85 °C	-50°C to +100°C
Vibration Sine (Operating)	20-2000 Hz - 2 g	20-2000 Hz - 5g
Random	VITA 47-Class V1	5-100 Hz : PSD = +3dB/octave 100-1000 Hz : PSD = 0.1g2/Hz 1000-2000 Hz : PSD = -6dB.octave
Shock (Operating)	20 g/11 ms Half Sine	40g/11 ms Half Sine
Altitude (Operating)	-1.500 to 60.000 ft	-1.500 to 60.000 ft
Relative Humidity	90% without condensation	95% without condensation

3U VPX XMC Carrier

Ordering Information

Environmental Class	Article	Part Number	Description
RC	VX3810-RC4-0100	1080-0584	3U VPX XMC Carrier-1" Conduction-Cooled 'RC4' (-40°C to +85°C) conformal coating, VITA42 XMC Connectors, SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-0 Slot Profile and MOD3p-PAY-1F1U1S1S1U1U2F1H-16.6.11-4 Module Profile, IPMI Controller for board health status
SA	VX3810-SA-0100	1080-0585	3U VPX XMC Carrier-Air-Cooled 'SA' (0°C to 55°C), VITA42 XMC Connectors, SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-0 Slot Profile and MOD3p-PAY-1F1U1S1S1U1U2F1H-16.6.11-4 Module Profile, IPMI Controller for board health status

Please ask sales.KFR@kontron.com for a specific configuration.

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More Information

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