

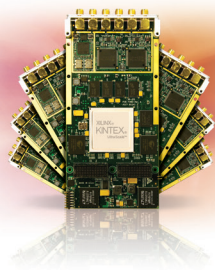


**Innovative
Integration**
a **molex** company

Product Guide | Volume 24



DSP
Data Acquisition
Embedded Control



XMC Modules

Kintex UltraScale & Virtex Advantage



The integration and ease-of-use of XMC standard modules make them an ideal choice for introducing cutting-edge I/O without the increased investment and risk required to include such new technology in larger, fully custom products. Their small size and rugged form-factor make them ideal for a variety of applications. **Compatible with:** Embedded computers such as ePC-Duo, ePC-nano, and VPXI-ePC. Adapters for PC desktop (PCIe), PXIe, cabled PCIe (CPEX) and VPX.

Kintex UltraScale Modules

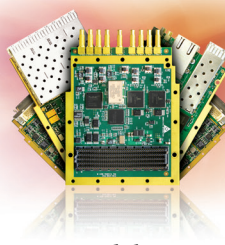
XU Series	4 GB component memory system Eight x 16 2400 MHz DDR4 SDRAM sync bandwidth of 20 GB/s! One x 18 600 MHz QDR SRAM bandwidth to 72 Mbit
XU-TX	12 GSPS • 2-channel 16-bit transmitter
XU-RX	4 GSPS • 2-channel 12-bit receiver
XU-RT	2.8 GSPS • 2-channel 14-bit transceiver
XU-COP	Xilinx Ultrascale XCKU060/085 FPGA 8 GB DDR4 • 72 Mbit • HPC FMC I/O site

Virtex-6 Modules

X6-1000M	Two 1 GSPS 12-bit A/Ds Two 1 GSPS 16-bit DACs • 4 GB Memory
X6-250M	Eight 250 MSPS 14-bit A/Ds • 4 GB Memory
X6-GSPS	Two 1.8 GSPS 12-bit A/Ds • 4 GB Memory
X6-400M	Two 400/500 MSPS A/Ds Two 500 MSPS DACs • 4 GB Memory
X6-RX	Four 160 MSPS 16-bit A/Ds

Timing Modules

Atropos	Clock generation & distribution
---------	---------------------------------



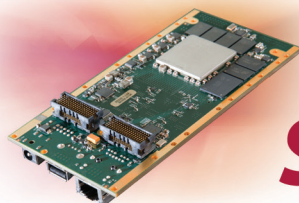
FMC Modules



FMC modules were created to provide a standard mezzanine card form factor, connectors, and modular interface to an FPGA located on a base board (carrier card). Decoupling the I/O interfaces from the FPGA in this manner simplifies I/O interface module design while maximizing module reuse.

Compatible with: SoC computers: Cardsharp, COPious-PXIe, COPious-PCIe. Embedded PCs: ePC-K7, Mini-K7. FPGA Carriers: PEX6-COP, XU-COP.

Module	A/D	D/A	COMM
FMC-1000	2x1000MSPS 14-bit	2x1250MSPS 16-bit	
FMC-500	2x500MSPS 14-bit	2x615MHz 16-bit	
FMC-310	4x310MSPS 16-bit		
FMC-250	2x250MSPS 16-bit	2x615MHz 16-bit	
FMC-Servo	8x500KSPS 16-bit	8x500KSPS 16-bit	
FMC-SFP+			4xSFP+ Ports
FMC-QSFP			2xQSFP Ports
FMC-SDF	4x625KSPS 24-bit	4x625KSPS 18-bit	
FMC-10GE			2x10Gbe (ePC-K7 only)



System on a Chip



A System-on-a-Chip combines multiple ARM processors and an FMC I/O module to address low-latency, real-time control and portable instrumentation applications.

Compatible with: All HPC and LPC FMC Modules.

System on a Chip

Cardsharp	Combines a Zynq Z7045 SoC with FMC IO module in a compact, stand alone design
COPious-PXIe	Plug-in Zynq Z7045 SoC coprocessor/ FMC Carrier for PXI Express chassis
COPious-PCIe	Plug-in Zynq Z7045 SoC coprocessor/ FMC Carrier for desktop/industrial PCs

... real time solutions!



Data Loggers

Andale

Ultra-performance data recording and playback systems which exploit a multitude of analog/digital I/O interfaces available via XMC modules. Turnkey functionality -- no custom device drivers or software required.

Compatible with: All Innovative XMC modules.

Data Logger

Andalé Turnkey, Wideband Recording and Playback
1-32 Channels, DC-5GHz • Optional down/up conversion • Rugged portable, ATX Mid Tower, or Rackmount configurations



Embedded PC

Windows & Linux Embedded Computer Solutions

ePC-nano

User customized, turnkey, embedded instruments that include an ultra-small form-factor, full-featured Windows/Linux PC and supports a wide assortment of XMC or FMC modules. A variety of solutions for Embedded Instrumentation, Remote, Autonomous IO, Mobile Instrumentation, and Distributed Data Acquisition.

Compatible with: All XMC and FMC module types.

Embedded PCs

Module

ePC-nano	XMC IO Site and 1 GbE Link	XMC
Mini-K7	Kintex-7 FPGA • FMC I/O Site Integrated Timing Support	FMC
ePC-Duo	Dual XMC IO Sites Integrated Timing Support	XMC
ePC-K7	Kintex7 FPGA • Dual FMC IO Sites Integrated Timing Support	FMC
VPXI-ePC	Air Cooled 4U 1/2 Rack OpenVPX with Four Peripheral/Payload Slots	XMC
PXIe-ePC	Air cooled, 3U, 18 slot chassis for wide channel-count inst. apps	XMC



Transceiver Products **Digital Transceiver**

Digital Transceiver Instrumentation Series

The Digital Transceiver products are turnkey solutions providing integrated data logger, digital down conversion (DDC), digital up conversion (DUC), and a spectrum analyzer (FFT) in a compact system.

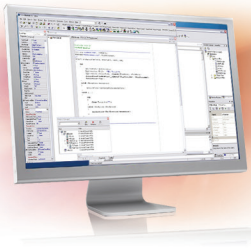
Compatible with: Innovative XMC or FMC modules.

Digital Transceiver

V61x Series (Air Cooling)	Dual XMC I/O Module Sites Xilinx Virtex-6 SX475T-2 FPGA
V615 & V616	Intel i7 Quad Core • 16GB RAM • SSD

Digital Receiver

V61x Series (Air Cooling)	Dual XMC I/O Module Sites Xilinx Virtex-6 SX475T-2 FPGA Intel i7 Quad Core • 16GB RAM • SSD
K70x Series (Conduction Cooling)	Dual FMC I/O Module Sites Xilinx Kintex-7 XC7K410T-2 FPGA Intel i7 Quad Core • 16GB RAM • SSD



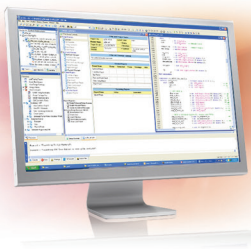
Software

Malibu

Malibu is a powerful, feature-rich software library designed to meet the challenge of developing software capable of high-speed data flow and real-time signal analysis on an embedded PC or Zynq SoC. Malibu adds high performance data acquisition and data processing capabilities to MSVC, Embarcadero, QtCreator or GNU C++ applications with a complete set of functions that solve data movement, analysis, viewing, logging and fully take advantage of the object-oriented nature of C++.

Software

Malibu	Rapid Application Development Libraries for Data Acquisition and DSP
--------	--



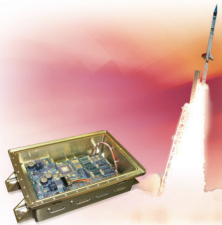
FrameWork Logic

FrameWork Logic

The FrameWork Logic tools provide comprehensive support for FPGA signal processing development in MATLAB and RTL for Innovative Integration products. The logic development cycle is shortened by building application logic within the FrameWork Logic hardware layer using pre-written and verified IP cores.

FPGA Firmware Development

FrameWork Logic	Development Tools for High Speed Signal Processing in FPGAs
-----------------	---



Our Architectures at Work

Applications integrating Innovative Integration Boards

- Medical Imaging
- OEM Instruments
- Bio-Medical
- SONAR Hydrophone transient detection
- Wireless
- Military Hardware
- Research & Development
- Industrial Control
- Telecom/Intelligence
- Test & Measurement

In-house Capabilities

- Manufacturing
- Test & Inspection
- PCB & Substrate Layout
- Advanced SMT
- Design
- 3D & Advanced IC Packaging
- Connector MFG
- FPGA & Memory Systems
- High Performance Connectors



Innovative Integration

741 Flynn Road
Camarillo, California 93012
805.383.8994

www.innovative-dsp.com