

Company & Product Summary

XEM7310

FPGA Development & Integration Module



- Founded 2004.
- Leading producer of powerful FPGA modules for high-performance data acquisition, instrumentation, and test & measurement
- Focus on lifecycle-managed modules for prototypes, proof-of-concept, and production use
- Modules include the FrontPanel SDK — a multi-platform, multi-language, FPGA-agnostic framework for professional-grade hardware / software connectivity
- Introduced SYZGY connectivity standard in 2017
- ISO 9001:2015 QMS, certified 2019


Proof-of-Concept

Build fast. Build early.


Prototype

Focus on your core.


Production

Simplify your supply chain.

OUR CUSTOMERS

Over 2,000 corporate customers

Over 200 Universities worldwide


CUSTOMER SEGMENTS

Research Organizations

National Laboratories

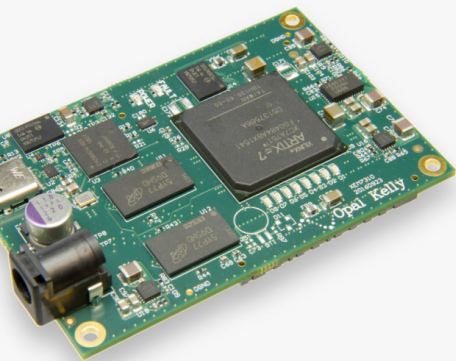
Military / Aerospace

Scientific Instrumentation

Commercial



XEM7310

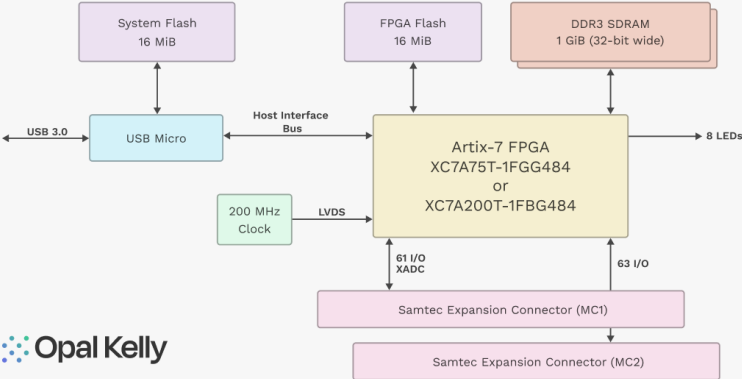


Xilinx Artix-7 XC7A75T / A200T

SuperSpeed USB 3.0 interface
1 GiB DDR3 memory
126 I/O including MRCC, SRCC, and XADC
Samtec 0.8mm board-to-board connectors



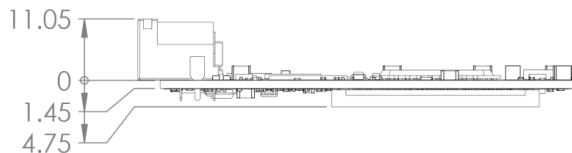
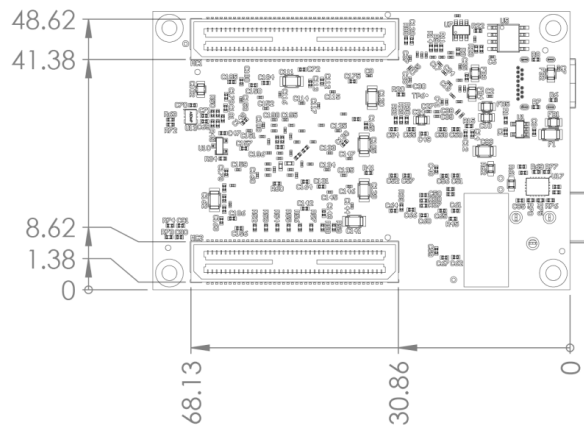
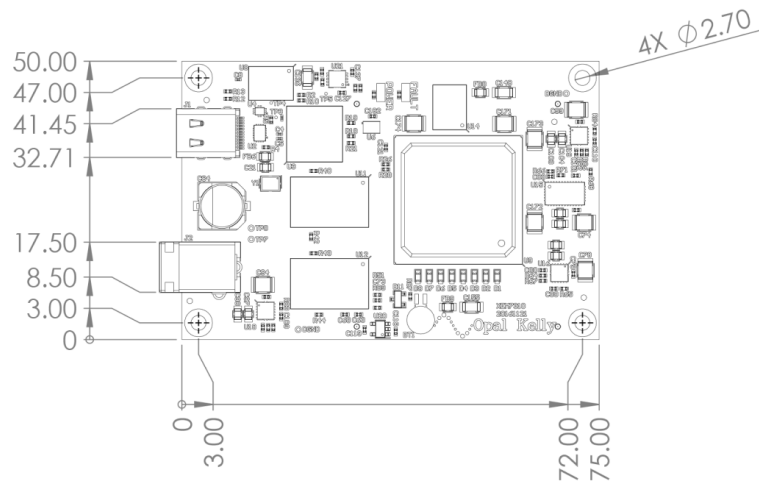
FrontPanel® SDK



Host Interface	USB 3.0 Type C, SuperSpeed FrontPanel Support			
FPGA	XC7A75T-1FGG XC7A200T-1FBG			
Memory	1 GiByte DDR3, 32-bit wide data interface			
NV Memory	16 MiB System Flash 16 MiB FPGA Flash			
Oscillator	200 MHZ			
FPGA I/O Voltage	Up to +3.3V			
	MINIMUM	TYPICAL	MAXIMUM	UNITS
DC Input	+4.5	+5.0	+5.5	VDC
DC Input Ripple	-	-	50	mVp-p
Operating Temperature	0	-	+70	°C
Storage Temperature	-50	-	+100	°C
Weight		24		grams
Oscillator Frequency		200		MHz
Oscillator Freq. Stability		± 50		ppm
Oscillator Jitter		2.5		ps RMS
FEATURE	XEM7310-A75	XEM7310-A200		
FPGA	XC7A75T-1FGG	XC7A200T-1FBG		
Slice Count	11,800	33,650		
D Flip-Flops	94,400	269,200		
Distributed RAM	892 Kib	2,888 Kib		
Block RAM	3,780 Kib	13,140 Kib		
DSP Slices	180	740		
Clock Management Tiles	6	10		

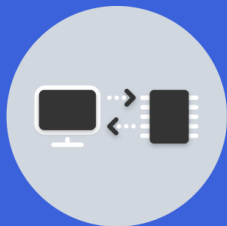
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Mechanical Drawings



All dimensions in millimeters (mm)

FrontPanel[®] System Components



Software API and a robust driver to communicate with your device over USB, PCI Express and the internet.

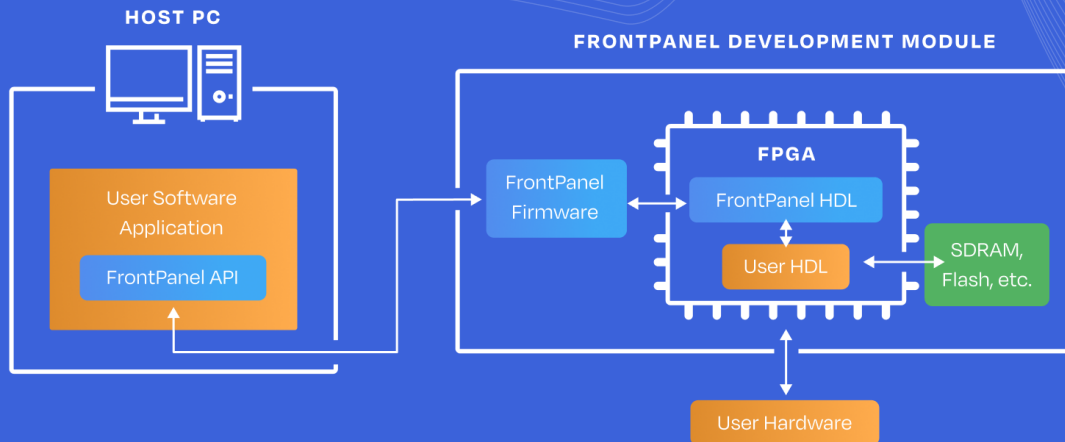


Proprietary device firmware to manage FPGA configuration and communication as well as other device management and monitoring.



Lightweight FPGA IP blocks that integrate with your HDL to make host communication simple and easy.

FrontPanel[®] System Architecture



Build high-performance software-connected FPGA applications for
prototypes, proof-of-concept, and production

FrontPanel[®] SDK

- Multi-platform, multi-language
- Easy to use. High performance. Stable and reliable.
- USB 2.0, USB 3.0, PCI Express, and TCP/IP
- C++, C# (.NET), Python, Java, Ruby APIs
- Windows DLL / Shared Object for 3rd-party integration
(e.g. MATLAB, LabView)

FrontPanel[®] over IP (FPoIP)

- Familiar API, extended over TCP/IP networks
- Protocol, server, and client implementations
- Server for USB-based devices: Windows, Linux, and macOS hosts
- Lua-based server-side scripting for latent conditions
- Javascript implementation for in-browser operation

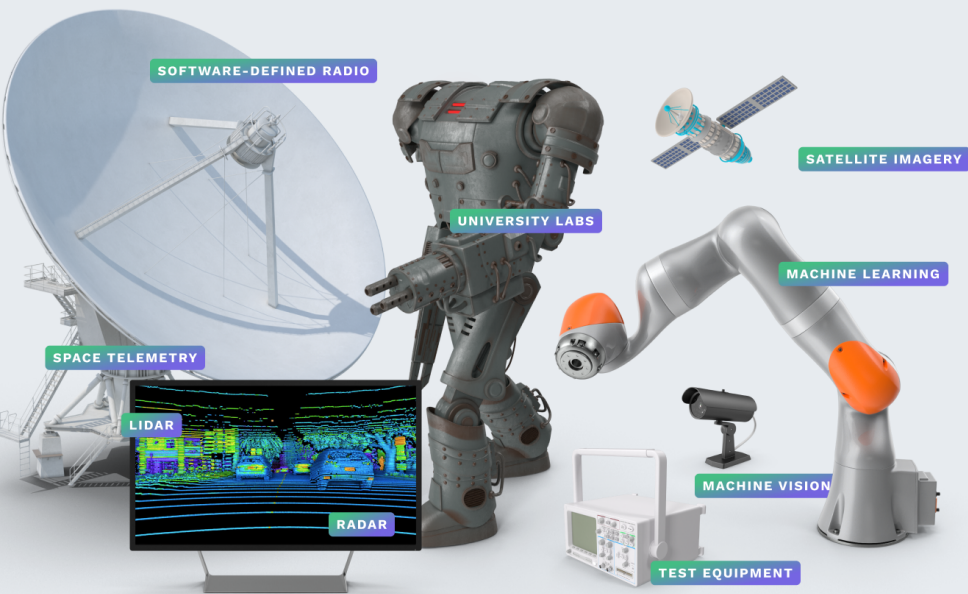


2.0  3.0  FPOIP 



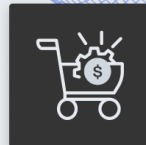
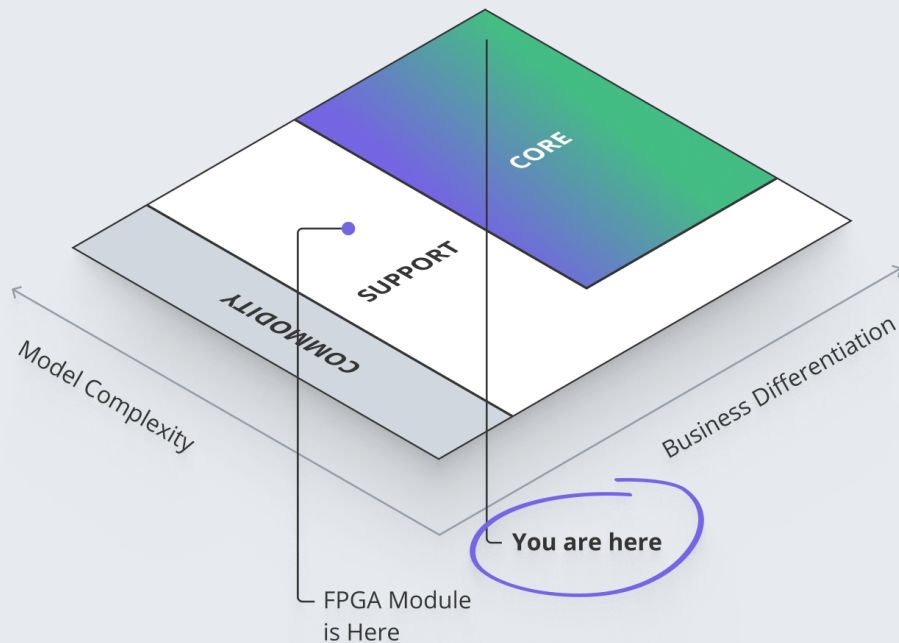
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Applications & Deployments

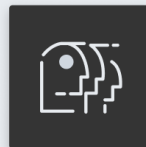


Data Acquisition
Instrumentation
Test & Measurement
Machine Vision
Software-Defined Radio
Education & Research
Machine Learning / AI
Networking
RADAR, LIDAR
Satellite Imagery
Advanced / Remote Sensing
Semiconductor Simulation, Test, and Debug

Focus on Your Core Expertise



Reduce time to market



Build a team that strengthens your core



Simplify your supply chain