

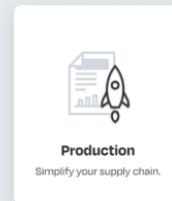
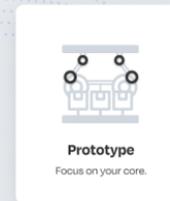
## Company & Product Summary

# 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 SYZYGY connectivity standard in 2017
- ISO 9001:2015 QMS, certified 2019



#### OUR CUSTOMERS

Over 2,000 corporate customers  
Over 200 Universities worldwide



#### CUSTOMER SEGMENTS

Research Organizations  
National Laboratories  
Military / Aerospace  
Scientific Instrumentation  
Commercial



# XEM7310

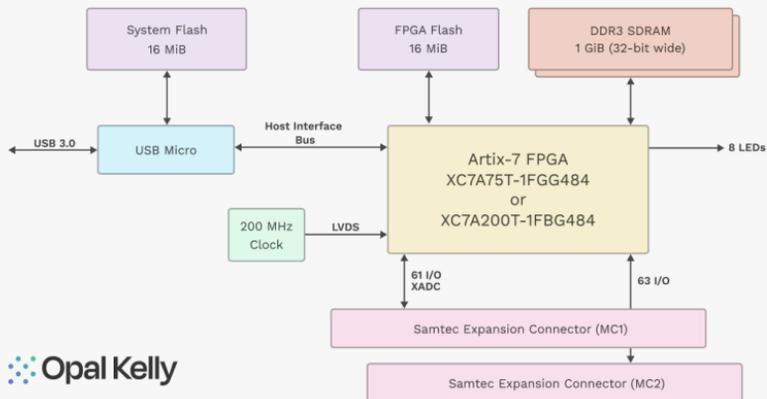


## Xilinx Artix-7 XC7A75T / A200T

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



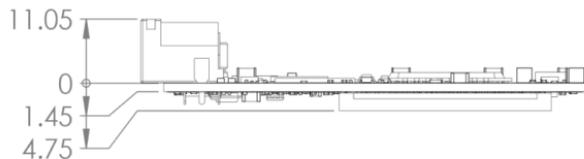
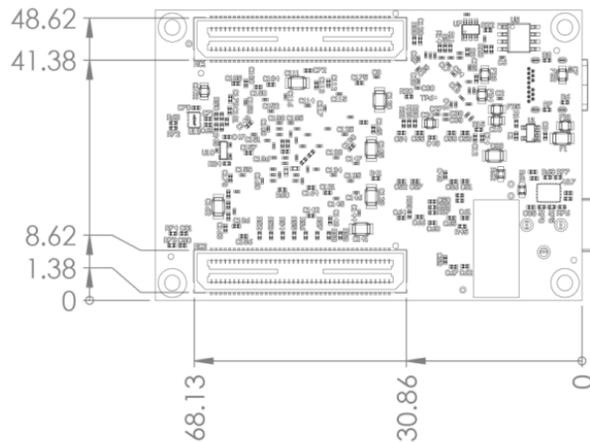
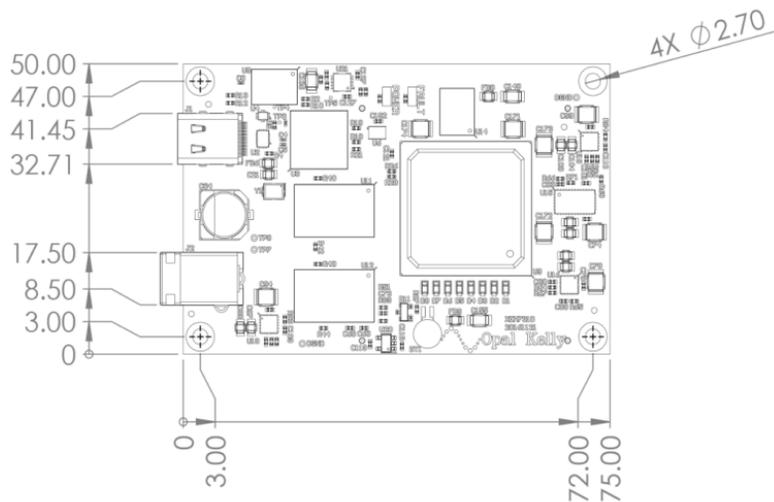
FrontPanel® SDK



<b>Host Interface</b>	USB 3.0 Type C, SuperSpeed FrontPanel Support			
<b>FPGA</b>	XC7A75T-1FGG XC7A200T-1FBG			
<b>Memory</b>	1 GiByte DDR3, 32-bit wide data interface			
<b>NV Memory</b>	16 MiB System Flash 16 MiB FPGA Flash			
<b>Oscillator</b>	200 MHz			
<b>FPGA I/O Voltage</b>	Up to +3.3V			
	<b>MINIMUM</b>	<b>TYPICAL</b>	<b>MAXIMUM</b>	<b>UNITS</b>
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
<b>FEATURE</b>	<b>XEM7310-A75</b>	<b>XEM7310-A200</b>		
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		

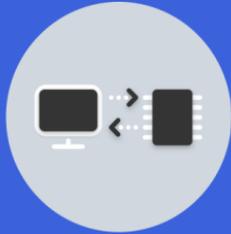
# XEM7310

## Mechanical Drawings



All dimensions in millimeters (mm)

# FrontPanel<sup>®</sup> System Components



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

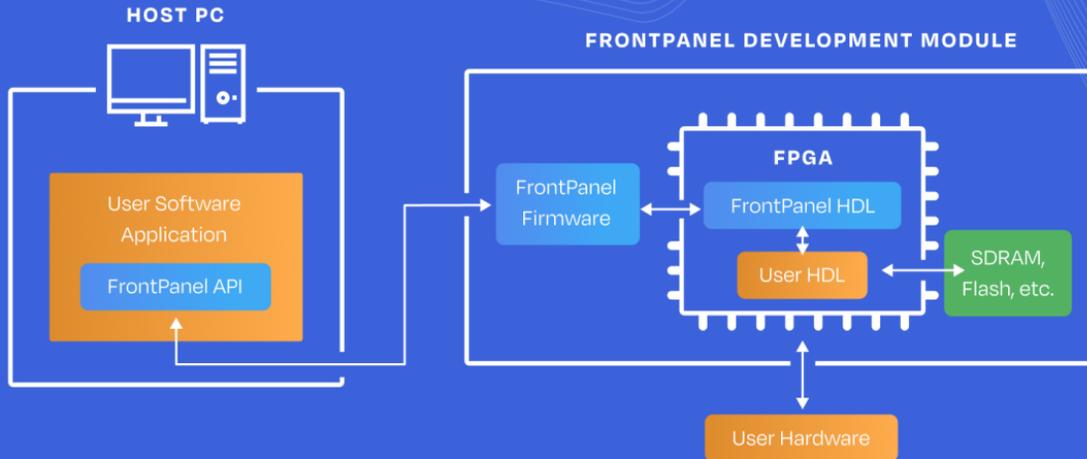


Proprietary device firmware to manage FPGA configuration and communication as well as other device management and monitoring.



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

# FrontPanel<sup>®</sup> System Architecture



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

## FrontPanel<sup>®</sup> 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<sup>®</sup> 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



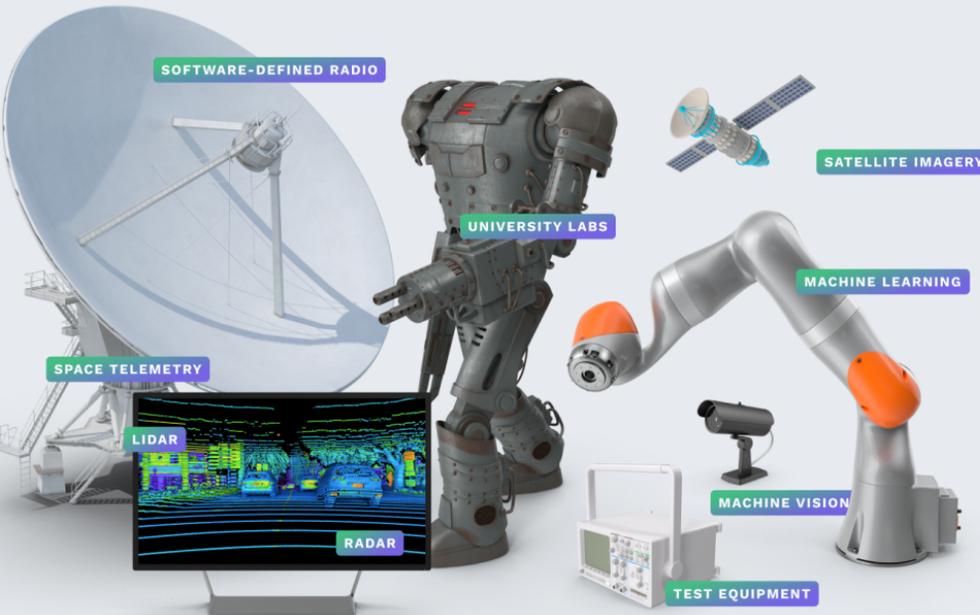
3.0



FPOIP

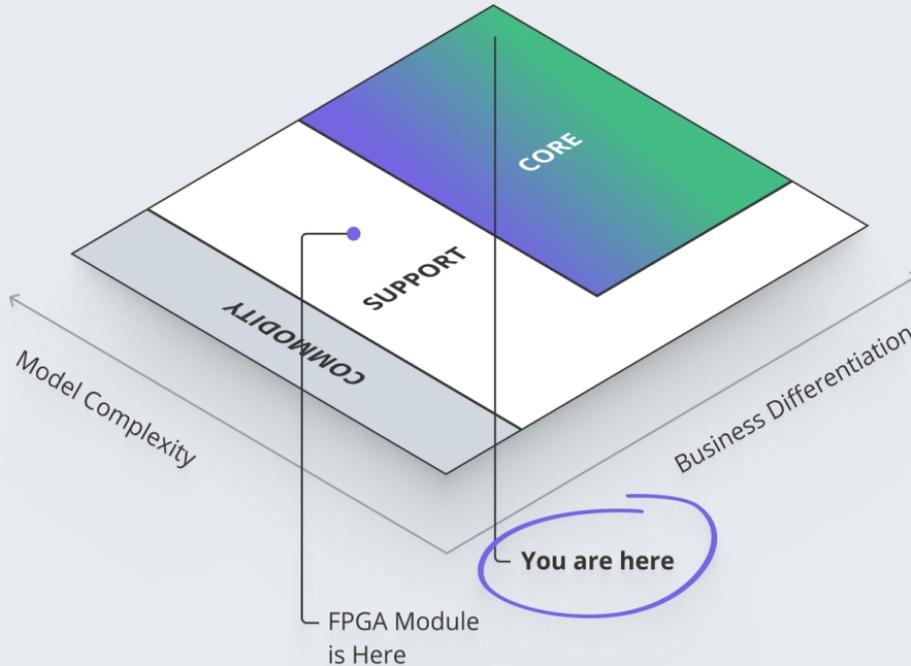


# Applications & Deployments



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