

## Company & Product Summary

# XEM7360

FPGA Development Module & 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


**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

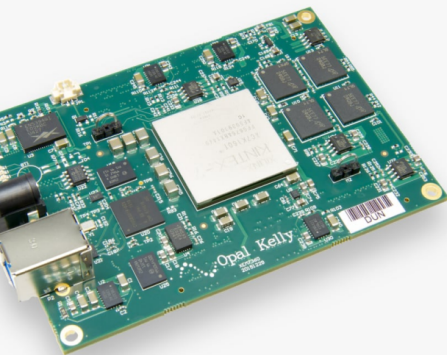
Military / Aerospace

Scientific Instrumentation

Commercial



# XEM7360

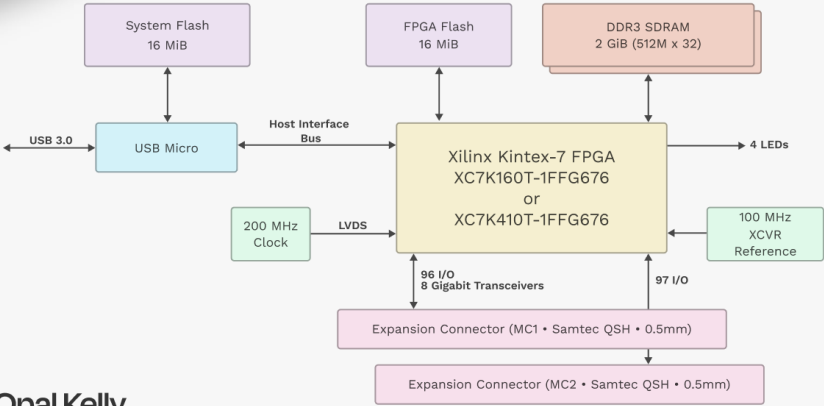


## Xilinx Kintex-7 XC7K160T / K410T

SuperSpeed USB 3.0 interface  
2 GiB DDR3 memory  
193 I/O and 8 Gigabit Transceivers  
Samtec 0.5mm board-to-board connectors



## FrontPanel® SDK



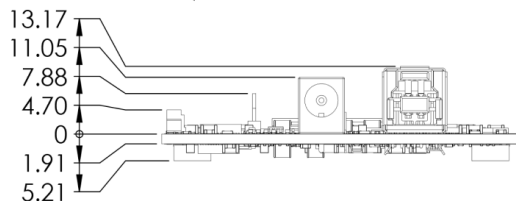
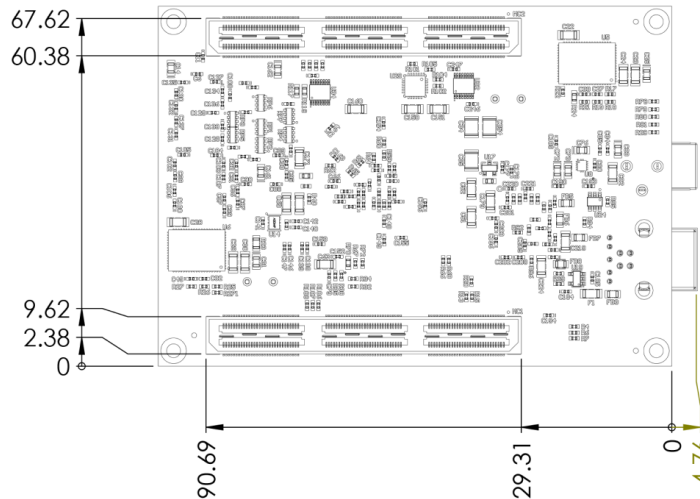
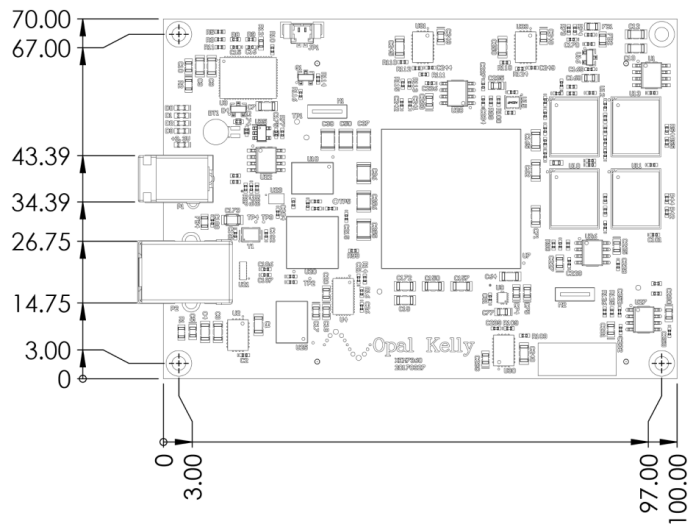
Host Interface	USB 3.0 Type B, SuperSpeed FrontPanel Support
FPGA	XC7K160T-1FFG676C (-I, -3E available) XC7K410T-1FFG676C (-I, -3E available)
Memory	2 GiByte DDR3, 32-bit wide data interface
NV Memory	16 MiB System Flash 16 MiB FPGA Flash
Oscillators	200 MHZ + 100 MHz transceiver reference
FPGA I/O Voltage	Up to +3.3V, Software Programmable

	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		62		grams
Transceiver Reference		100		MHz
Oscillator Freq. Stability		± 25		ppm
Oscillator Jitter		2.5		ps RMS

FEATURE	XEM7360-K160T	XEM7360-K410T
FPGA	XC7K160T	XC7K410T
Slice Count	25,350	63,550
D Flip-Flops	202,800	508,400
Distributed RAM	2,188 Kib	5,663 Kib
Block RAM	11,700 Kib	28,620 Kib
DSP Slices	600	1,540
Clock Management Tiles	8	10

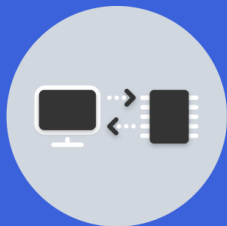
# XEM7360

## 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.

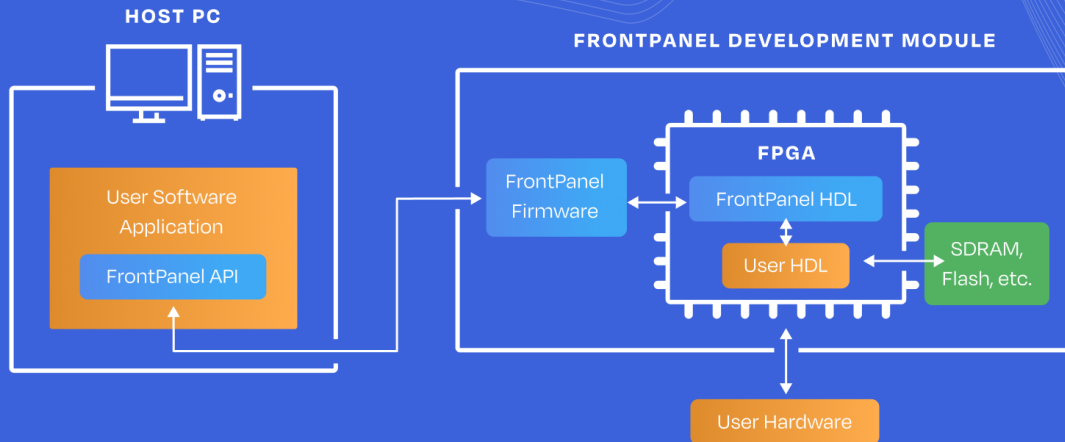


Proprietary device firmware to manage FPGA configuration and communication as well as other device management and monitoring.



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



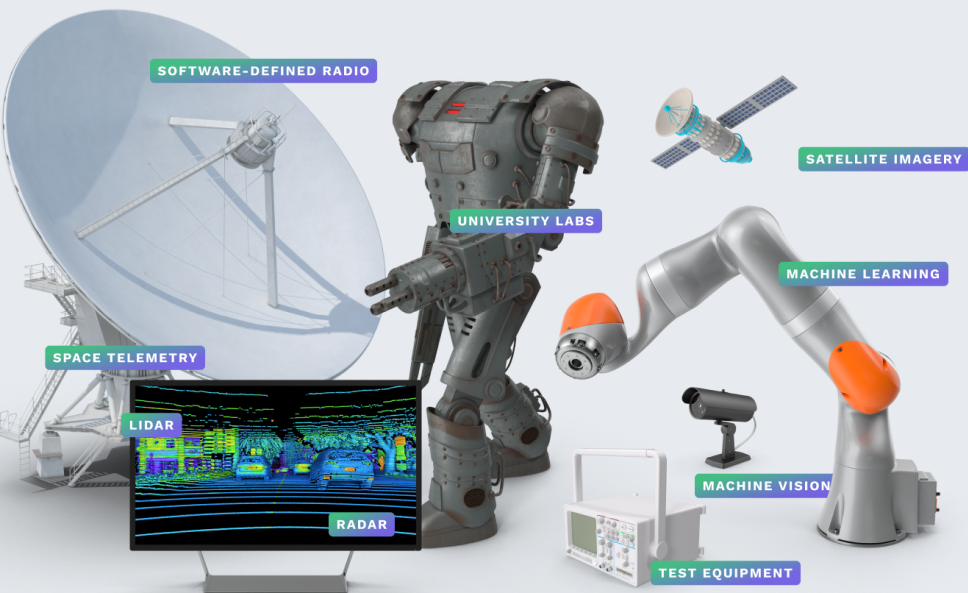
2.0  3.0  FPOIP 



 Opal Kelly



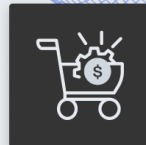
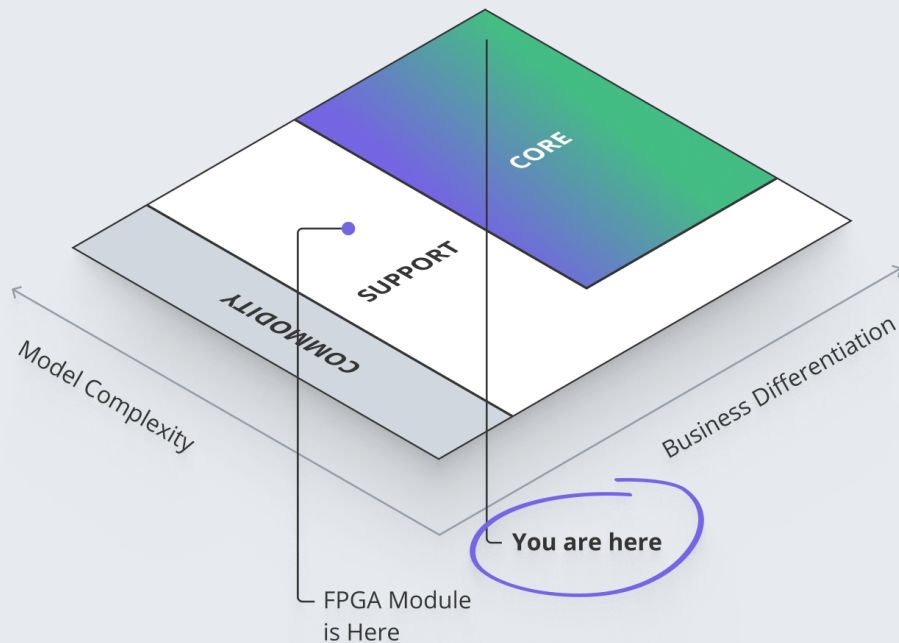
# Applications & Deployments



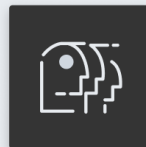
Data Acquisition  
Instrumentation  
Test & Measurement  
Machine Vision  
Software-Defined Radio  
Education & Research  
Machine Learning / AI  
Networking  
RADAR, LIDAR  
Satellite Imagery  
Advanced / Remote Sensing  
Semiconductor Simulation, Test, and Debug



# Focus on Your Core Expertise



Reduce time to market



Build a team that strengthens your core



Simplify your supply chain