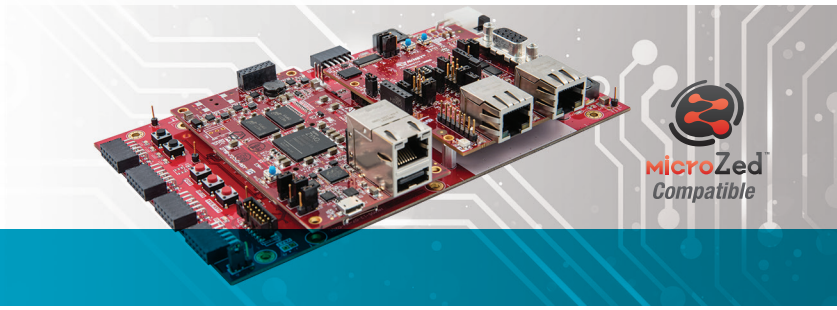
MicroZed Industry 4.0 Ethernet Kit



Electronics Marketing Technology

DESIGNED BY AVNET

HMS Connecting Devices™

Feature List

- EtherCAT, EtherNet/IP, Powerlink, Profinet RT/IRT, Modbus-TCP
- Dedicated FPGA core for protocol stack
- Common API for all protocols
- Linux drivers and example applications
- Simple IP evaluation and licensing
- MicroZed 7020 SOM
- Xilinx Zynq-7000 SoC - dual ARM© Cortex™-A9 with an FPGA
- One Gigabit Host Ethernet port
- Two Industrial Network ports
- Dual CAN transceivers
- USB2.0 OTG
- USB-UART
- 100 general purpose I/O

Kit Includes

- MicroZed 7020 SOM
- ISM Networking Module II
- MicroZed FMC Carrier
- JTAG HS3 High Speed Xilinx Programming Cable
- micro SD card
- Ethernet and USB cables
- 12V power supply
- Quick Start Card
- EtherCAT reference design

Target Apps

- Industrial Ethernet
- Smart Factories
- Industrial Automation
- Motor Control

Avnet's MicroZed™ Industry 4.0 Ethernet Kit (I4EK) demonstrates multi-protocol Industrial Ethernet in the Xilinx Zynq-7000™ SoC. Designers using the I4EK can quickly evaluate HMS Anybus® IP which provides the most widely used protocols with a unified API. The result is seamless hardware and software integration across networks. Protocol support includes EtherCAT,® Powerlink, PROFINET® RT/IRT, EtherNet/IP™, and Modbus-TCP.

No startup fees for evaluation and development. Deployed products are licensed with a tiny 1-wire security chip.

To help you minimize risk and get to market faster, the MicroZed System-on-Module (SOM) is small, rugged, and built for deployment. Getting started is easy.

1. **Evaluate** the Zynq SoC and Anybus IP real-time performance using the I4EK's MicroZed SOM
2. **Prototype** your system using best-in-class IP, software APIs, and drivers
3. **Deploy** your end product with the MicroZed SOM, Anybus IP, your differentiating features and custom carrier board

Reference Design

The I4EK out-of-box reference design creates a Zynq EtherCAT Slave communicating with a PC soft master using Beckhoff TwinCAT software. Reference designs for EtherNet/IP, PROFINET, Powerlink, and Modbus-TCP protocol are also available.

Network	Anybus IP version	Approximate Size (LUTs)	Block RAM Tiles
PROFINET	1.03	19,000	90
EtherNet/IP	1.03	18,000	90
Modbus TCP	1.01	18,000	90
EtherCAT	1.00	14,000	92
POWERLINK	1.01	12,000	94

*Xilinx Z7020 has 140 BRAM tiles and 53,200 LUTs

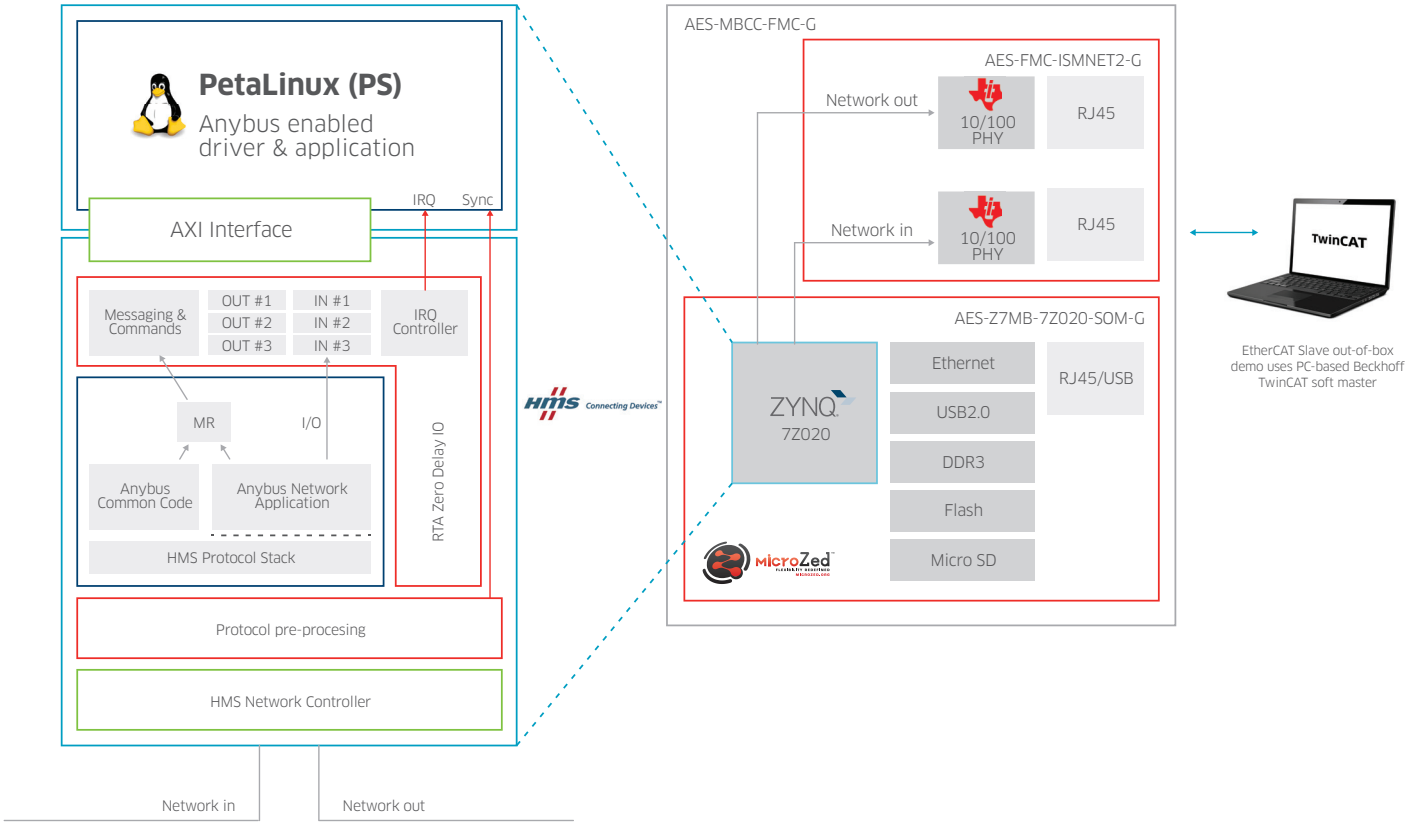
Anybus IP for Xilinx

HMS Industrial Networks optimized their award-winning Anybus CompactCom™ technology, creating Anybus™® IP Cores for Xilinx devices and design suites. The IP takes advantage of Zynq programmable logic (PL) to implement a dedicated soft core for the communication protocol stack, meaning performance is guaranteed independent of applications running on the Zynq processing system (PS). The API is identical across networks allowing the application software to remain unchanged.

To purchase this kit, visit http://microzed.org/i4ek

Accelerating Your Success™

Block Diagram



Featured Manufacturers

XILINX ALL PROGRAMMABLE.

TEXAS INSTRUMENTS

Parts:

Part Number	Description	Resale
AES-Z7MB-I4EK-G	MicroZed Industry 4.0 Ethernet Kit (I4EK)	$699 USD

Related Parts:

Part Number	Description	Resale
AES-Z7MB-7Z020-SOM-G	MicroZed 7020 SOM - Standard Version	$289 USD (qty = 1-99)*
AES-Z7MB-7Z020-SOM-I-G	MicroZed 7020 SOM - Industrial Temp Version	$329 USD (qty = 1-99)*
AES-MBCC-FMC-G	MicroZed FMC Carrier Card	$149 USD
AES-FMC-ISMNET2-G	ISM Networking FMC Module (version 2)	$250 USD

Countries Available for Purchase: Americas, EMEA, Asia, Japan

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