The Avnet Artix-7® 50T FPGA Evaluation Kit is a completely customizable development kit perfect for embedded designers looking for a flexible, low-power platform. The Artix-7 50T FPGA evaluation board is a complete system, packaging all the necessary functions and interfaces needed for an embedded processor system onto a small footprint. This board is the perfect solution for designers interested in exploring the MicroBlaze™ soft processor or Artix-7 FPGAs in general. Experienced FPGA users will find the Artix-7 50T FPGA evaluation board a valuable tool for general purpose prototyping and testing. The included peripherals and expansion interfaces make the kit ideal for a wide variety of applications. From evaluating Industrial Ethernet protocols to integrating multiple sensors to running a Linux-based web server, the Artix-7 50T FPGA evaluation board can help you validate your next design idea.

**Features**
- Xilinx XC7A50T-1FTG256C
- 256 MB DDR3 SDRAM
- 32 MB of QSPI Flash
- 32 KB of I²C EEPROM
- Dual 10/100 Ethernet interfaces
  - Support IEEE1588
- 6 Digilent compatible Pmod™ interfaces enabling 48 user I/O pins
  - Routed as differential pairs
  - Paired to fit dual-wide Pmods
- USB-UART interface
- 512b EEPROM with SHA-256 authentication engine
- 16 AMS inputs
  - 12 connected to Pmods
  - 4 for power monitor circuit
- 10 user LEDs
- 8 user DIP switches
- 5 user push-button switches
- 200 MHz LVCMOS oscillator (system clock)
- JTAG programming/configuration port
  - Xilinx PC4 and Digilent SMT2

**Target Applications**
- Embedded controllers
- General-purpose prototyping
- Networking and communications
- I/O expansion
- Sensor fusion
- Industrial ethernet applications

**Kit Includes**
- Avnet Artix-7 50T evaluation board
- USB A-to-micro-B cables (2)
- Ethernet cable
- Xilinx Vivado® Design Edition license voucher (device locked to XC7A50T)

To purchase this kit, visit [www.em.avnet.com/artix7evl](http://www.em.avnet.com/artix7evl)
Block Diagram

Communication Ports

- 10/100 RMII PHY (13 I/O)
- 10/100 RMII PHY (13 I/O)
- USB UART (2 I/O)

Voltage Regulators

- 1.0 V (VCCINT)
- 1.5 V (DDR3, FPGA)
- 1.8 V (VCCAUX DDR)
- 3.3 V (PMOD, FPGA)

Digilent SMT2 JTAG Module

Memory Interfaces

- 32 KB I2C EEPROM (2 I/O)
- 256 MB DDR3 SDRAM (x16, 47 I/O)
- 32 MB Multi-bit SPI Flash (x4, 6 I/O) Configuration & User Storage

Clock Sources

- LVMOS OSC (1 I/O) @ 200 MHz

i/O Ports

- AMS (4 I/O)
- Push Switches (5 I/O)
- DIP Switches (8 I/O)
- User LEDs (10 I/O)
- 6x PMOD (48 I/O)
- SHA-256 EEPROM (1 I/O)

Featured Manufacturers

Ordering

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<tr>
<th>Part Number</th>
<th>Hardware Description</th>
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<tr>
<td>AES-A7EV-7A50T-G</td>
<td>Artix-7 50T FPGA Evaluation Kit</td>
<td>$239 USD</td>
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