Kintex® UltraScale Development Kit
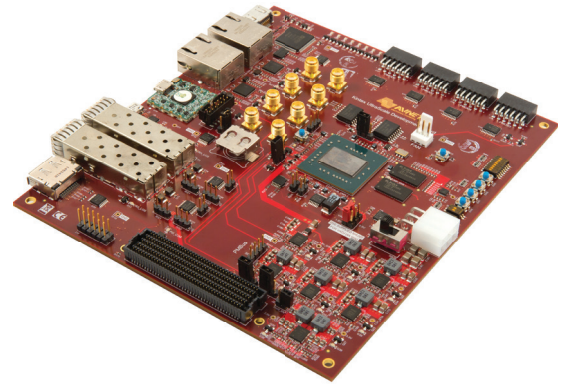
AVNET

Reach Further™

The Xilinx Kintex® UltraScale™ Development Kit provides a complete development platform for designing and verifying applications based on the Xilinx Kintex UltraScale All Programmable FPGA devices. The Xilinx Kintex UltraScale development board packages all the necessary functions needed for an embedded processing system.

Available with the Kintex UltraScale XCKU040-1FBVA676 device, the Kintex UltraScale kit enables designers to prototype high-performance designs with ease, while providing expandability and customization through the FMC HPC expansion slot and PMOD headers. In addition to the Xilinx Kintex UltraScale XCKU040 device, the Kintex UltraScale development board features 1GB DDR4 SDRAM, two SFP+ interfaces, dual QSPI Flash memories, HDMI interface, LVDS touch panel interface, two 10/100/1000 Ethernet PHYs, and a USB-UART port.

FEATURES

- Xilinx XCKU040-1FBVA676 FPGA
- 1GB DDR4 SDRAM (x32 @ 1600Mbps)
- 32MB of Configuration QSPI Flash (single QSPI x4)
- 32MB of User Code/Data QSPI Flash (single QSPI x4)
- Two 10/100/1000 Ethernet Interfaces (RGMII)
- USB-UART Interface
- FMC HPC Slot (VADJ of 1.8V, 2.5V, or 3.3V)
- Two SFP+ Interfaces (up to 12.5Gbps)
- Two GTH SMA Interfaces (up to 12.5Gbps)
- LVDS Touch Panel Interface
- Four PMOD headers
- HDMI Interface
- 8 User LEDs
- 5 User Push Switches
- 8 User DIP Switches
- Programmable LVDS Clock Source (GTH reference clock)
- 250 MHz LVDS Oscillator (system clock)
- JTAG Header
- SYSMON Header
- Digilent USB-JTAG Module (JTAG-SMT2)

To purchase this kit, visit avnet.com/us/ku040-Dev

TARGET APPLICATIONS

- Embedded controllers
- General-purpose prototyping
- Networking and communications
- Storage and servers
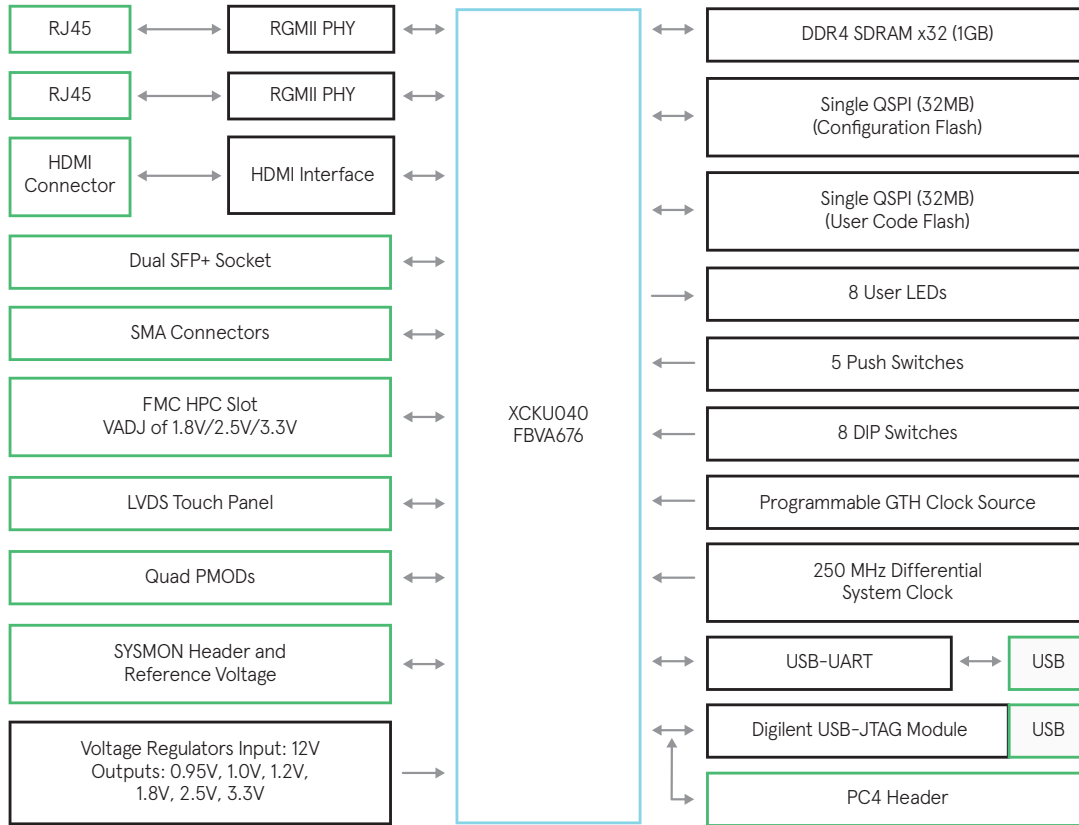- Video applications

KIT INCLUDES

Hardware
- Avnet Kintex UltraScale Development Board
  - XCKU040-1FBVA676 Kintex UltraScale FPGA device
- Ethernet and USB A-mini-B Cables (2)
- 12V Power Supply (US/UK/Euro AC cords)

Software Tools
- Xilinx Vivado: Design Edition (Device locked to XCKU040)

BLOCK DIAGRAM

```
RJ45 ←→ RGMII PHY ←→ ┌──────────┐ ←→ DDR4 SDRAM x32 (1GB)
                     │          │
RJ45 ←→ RGMII PHY ←→ │          │ ←→ Single QSPI (32MB)
                     │          │    (Configuration Flash)
HDMI      HDMI       │          │
Connector ←→ Interface ←→ │     │ ←→ Single QSPI (32MB)
                     │          │    (User Code Flash)
Dual SFP+ Socket ←→  │          │ →  8 User LEDs
                     │          │
SMA Connectors ←→    │ XCKU040  │ ←  5 Push Switches
                     │ FBVA676  │
FMC HPC Slot         │          │ ←  8 DIP Switches
VADJ of 1.8V/2.5V/3.3V ←→ │     │
                     │          │ ←  Programmable GTH Clock Source
LVDS Touch Panel ←→  │          │
                     │          │    250 MHz Differential
Quad PMODs ←→        │          │ ←  System Clock
                     │          │
SYSMON Header and ←→ │          │ ←→ USB-UART ←→ USB
Reference Voltage    │          │
                     │          │ ←→ Digilent USB-JTAG Module  USB
Voltage Regulators Input: 12V    │
Outputs: 0.95V, 1.0V, 1.2V, →    │    PC4 Header
1.8V, 2.5V, 3.3V     └──────────┘
```

FEATURED MANUFACTURERS

XILINX — ALL PROGRAMMABLE.   TEXAS INSTRUMENTS   ADI ENGINEERING   MICRON   Infineon   TE connectivity

PARTS

Part Number	Description	Resale
AES-KU040-DB-G	Kintex UltraScale Development Board	

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