



FULL-FEATURED, POWER-EFFICIENT
FPGA DESIGN PLATFORM

KINTEX-7 FPGA KC705 EVALUATION KIT: VERSATILE, HIGH-PERFORMANCE BASE PLATFORM SHORTENS TIME TO MARKET FOR 7 SERIES DESIGNS

Design Challenges

- Shortened schedules, reduced budgets, and staffing cut-backs
- Increased design complexity and project scope, calling for advanced silicon
- Extreme pressures to lower power and lower bill of material (BOM) costs

Xilinx Solutions

- Integrated evaluation kit boosts developer productivity with a combination of silicon, software, IP, and reference designs
- Targeted design platforms—with open standards, common design methodologies, development tools, and run-time environment—benefit both software and hardware designers
- Foundation for simpler and smarter development of FPGA-based system-on-chip (SoC) solutions

Continuing its 28nm market leadership, Xilinx® offers developers access to the power, performance, and productivity advantages of the unified 7 series FPGAs with this base level Targeted Design Platform. The highly flexible Kintex™-7 FPGA KC705 Evaluation Kit accelerates development of applications for a broad range of markets that demand power-efficient high-speed communications and processing. Some of these include wireless (radio/baseband), aerospace and defense (radar), avionics, broadcasting (triple-rate SDI, bridging, EdgeQAM), and medical imaging. Time- and cost-saving features include on-board PCI Express, Agile Mixed Signal (AMS), HDMI video output, and FPGA mezzanine card (FMC) connectors.

Quick and Easy Design Evaluations

The second-generation Xilinx Targeted Design Platforms help designers simultaneously deal with decreasing design cycles and increasing design complexity and project scope. Designers can boost productivity and greatly accelerate access to the advanced functionality of Xilinx 7 series FPGAs with pre-verified reference designs. The reference designs also speed evaluation when combined with a full-featured Kintex-7 FPGA evaluation board and Xilinx ISE® Design Suite software. An ecosystem of readily available third-party add-on hardware and IP can be leveraged to further accelerate projects.

Flexible Communications and Expansion

The Kintex-7 FPGA KC705 Evaluation Kit provides a flexible framework for designing higher-level systems that require DDR3, Gigabit Ethernet, PCI Express, and other serial connectivity. Integrated industry-standard FMC connectors—which support many existing cards—simplify scaling and customization and speed start up. The AMS header lets designers explore the AMS technology and see how the feature can trim BOM cost. Other communications features—high-speed GTX transceivers, SFP+, and SMA connectors—further extend the list of advanced capabilities that can be evaluated and leveraged from this platform.

What's Inside the KC705 Evaluation Kit

- KC705 base board with the Kintex-7 XC7K325T-2FFG900CES FPGA
- Full-seat ISE® Design Suite Logic Edition, device-locked for the XC7K325T-2FFG900CES FPGA
- Reference and example designs and demonstrations*
- Board design files*
- Documentation*, including a step-by-step Getting Started Guide
- USB cables, Ethernet cable, and universal power supply
- AMS evaluation card

Reference Designs and Demonstrations*

- BIST Board Diagnostic Test Design
- IBERT XCVR Test Design
- Multi-Boot Reference Design
- DDR3 Memory Interface Reference Design
- PCIe x4 Gen2 PIO Reference Design
- AMS Reference Design
- PCIe/DDR3 Targeted Reference Design supporting x4 Gen 2 and DDR3 at 1600Mbps

*Numerous designs, demonstrations, and documentation are delivered on a USB flash drive; others are available online.

KINTEX-7 FPGA KC705 EVALUATION KIT



Take the NEXT STEP

For more information, support, documents, and reference designs, or to purchase, please visit: www.xilinx.com/kc705

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