

Genesys 2 Kintex-7 FPGA Development Board

The Genesys 2 is a high-performance, ready-to-use FPGA development board built around the Xilinx Kintex-7 FPGA. The Genesys 2 is a powerhouse for data and video processing applications, but offers a variety of peripherals making it a great solution for a wide array of projects.

Everything needed for robust multimedia applications is already available on the board: DisplayPort connectors, HDMI sink and source, 16-bit VGA, 128×32-pixel OLED screen, and an audio codec with four 3.5mm jacks. One can quickly get started with A/V, image processing, or other multimedia applications without needing additional hardware.

Working on other applications, or looking for more customizability? The Genesys 2 also offers five Pmod ports and a fully populated FMC HPC connector, which provide limitless expansion options. Additionally, the 10/100/1000 Ethernet, USB 2.0, and a USB HID host for mice and keyboards make the Genesys 2 easily integrated with other systems.

The powerful Kintex-7 XC7K325T-2FFG900C will have no trouble keeping up with your designs made in Vivado Design Suite or ISE. The free Web PACK version of the Vivado Design Suite does not support the Kintex-7 325T, but a voucher is provided for Vivado HL Design Edition at no extra cost.

Guides and demos are available to help users get started quickly with the Genesys 2. These can be found through the *Support Materials* tab.

Features

- Fully-populated 400-pin FMC HPC connector w/ ten GTX lanes
- USB-UART Bridge
- 128×32-pixel OLED
- 16-bit VGA connector
- Pmod connector for XADC signals
- Two four-lane DisplayPort connectors
- HDMI Sink and HDMI Source
- 10/100/1000 Ethernet PHY
- 1GB 1800Mbps on-board DDR3
- USB 2.0 Host/Device/OTG PHY
- Dedicated USB port for JTAG programming and data transfers
- Micro SD card connector
- Audio codec w/ four 3.5mm jacks
- Serial Flash

- Five Pmod ports
- USB HID Host for mice, keyboards and USB MSD Host for storage
- On-board FPGA: Xilinx Kintex-7™ FPGA (XC7K325T-2FFG900C)
- 50,950 logic slices, each with four 6-input LUTs and 8 flip-flops
- 16 Mbits of fast block RAM
- Ten clock management tiles, each with a phase-locked loop (PLL)
- 840 DSP slices
- Internal clock speeds exceeding 450MHz
- On-chip analog-to-digital converter (XADC)
- Up to 10.3125Gbps gigabit transceivers
- 1800Mbps DDR3 data rate with 32-bit data width
- Commercial -2 speed grade