



Diligent FPGA

## Genesys 2 Kintex-7 FPGA Development Board

SKU: 410-300



### Product Description

The Digilent Genesys 2 board is an advanced, high-performance, ready-to-use digital circuit development platform based on the powerful Kintex-7™ Field Programmable Gate Array (FPGA) from Xilinx. With its high-capacity, high-speed FPGA, fast external memories, high-speed digital video ports, and wide expansions options, the Genesys 2 is well suited for data and video processing applications. Several built-in peripherals, including Ethernet, audio and USB 2.0 allow a wide range of additional applications. The fully-populated high-speed FMC HPC connector opens the door to great expansion possibilities.

The Kintex-7 FPGA offers more capacity, higher performance, and more resources than the Virtex-5 from the first-generation Genesys.

### Features:

- Xilinx Kintex-7™ FPGA (XC7K325T-2FFG900C)
- 50,950 logic slices (up 7x), each with four 6-input LUTs and 8 flip-flops
- Close to 16 Mbits of fast block RAM (up 7x)
- Ten clock management tiles, each with phase-locked loop (PLL)
- 840 DSP slices (up 17x)
- 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

The Genesys 2 also offers an improved collection of ports and peripherals, including:

Fully-populated 400-pin FMC HPC connector w/ ten GTX lanes  
USB-UART Bridge  
128x32 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

The Genesys 2 can be programmed from various sources, like USB thumb drive, microSD, the on-board non-volatile Flash or the on-board USB-JTAG programmer circuit.

The Genesys 2 is compatible with Xilinx's new high-performance Vivado® Design Suite as well as the ISE toolset, which includes ChipScope and EDK. Vivado comes with all the required cable drivers, so no separate installation is required. The free "WebPACK" versions of these toolsets do not support the Kintex-7 325T, however for a limited time a voucher with Design Edition will be included with no additional cost.

## What's Included:

Genesys 2 Kintex-7 FPGA  
Diligent custom cardboard box with protective foam  
USB A to Micro-B programming cable and one 12V, 3A wall power supply with US and EU adapters  
Vivado Design Suite voucher

<http://store.digilentinc.com/genesys-2-kintex-7-fpga-development-board/>