

## Virtex®-6 FPGA Development Boards and Kits

| Product Name   | Purpose   | Part Number        | Devices Supported   | Features   |
|--|---|--------------------|---------------------|--|
| Virtex-6 FPGA ML605 Evaluation Kit<br>www.xilinx.com/ml605       | General-purpose FPGA Evaluation kit                       | EK-V6-ML605-G      | XC6VLX240T-1FFG1156 | x8 PCI Express, FMC (HPC & LPC), DDR3 SO-DIMM (512 MB), PlatformFlash & BPI Flash Memory, System ACE™, USB-To-UART, USB 2.0 Host & Device, 10/100/1000 Ethernet, SFP, DVI Out, 16x2 Character Display  |
| Virtex-6 FPGA ML623 Characterization Kit<br>www.xilinx.com/ml623 | GTX Characterization Kit                                  | CK-V6-ML623-G      | XC6VLX240T-1FFG1156 | 40 SMA pairs, System ACE controller, SuperClock-2 module, 10 differential SMA connector pairs for GTX transceiver clock inputs, Three FMC HPC connectors (Each with 79 differential user-defined pairs, no GTX transceivers), USB-to-UART bridge |
| Virtex-6 FPGA Connectivity Kit                                   | Serial Connectivity Kit with Targeted Reference Design    | DK-V6-CONN-G       | XC6VLX240T-1FFG1156 | ML605 (EK-V6-ML605-G) + Serial Connectivity FMC Module (HW-FMC-XM104-G) and Serial Connectivity Reference Design   |
| Virtex-6 FPGA Embedded Kit                                       | Embedded Kit with Targeted Reference Design               | DK-V6-EMBD-G       | XC6VLX240T-1FFG1156 | ML605 (EK-V6-ML605-G) + Embedded Reference Design  |
| Virtex-6 FPGA DSP Kit  | DSP Kit with Targeted Reference Design                    | AES-V6DSP-LX240T-G | XC6VLX240T-1FFG1156 | ML605 (EK-V6-ML605-G) + DSP Reference Design   |
| Virtex-6 FPGA Broadcast Connectivity Kit                         | Broadcast Connectivity Kit with Targeted Reference Design | DK-V6-BCCN-G       | XC6VLX240T-1FFG1156 | ML605 (EK-V6-ML605-G) + Broadcast FMC Module and Broadcast Reference Design  |

## Virtex®-5 FPGA Development Boards and Kits

| Product Name  | Purpose  | Part Number        | Devices Supported                      | Features  |
|---|--|--------------------|--|---|
| Virtex-5 FPGA ML501<br>www.xilinx.com/ml501   | General-purpose FPGA development board   | HW-V5-ML501-UNI-G  | XC5VLX50FFG676                         | DDR2 SO-DIMM (256 MB), ZBT SRAM (1 MB), NOR Flash, PlatformFlash PROM and SPI Flash Memory, System ACE™ CompactFlash, JTAG Header or External JTAG Connector, 2x USB, 2x PS/2, 10/100/1000 Ethernet, RS-232, 2x Audio In/Out, DVI/VGA Video, XGI Expansion Port   |
| Virtex-5 FPGA ML505<br>www.xilinx.com/ml505   | General-purpose FPGA and RocketIO™ GTP development board                                   | HW-V5-ML505-UNI-G  | XC5VLX50TFF1136                        | DDR2 SO-DIMM (256 MB), ZBT SRAM (1 MB), Linear, platform, and SPI flash, System ACE CompactFlash, JTAG Header or External JTAG Connector, 2x USB, 2x PS/2, 10/100/1000 Ethernet, RS-232, 2x Audio In/Out, DVI/VGA Video, XGI Expansion Port, MGT support with PCI Express, SFP, SMA, SGMII  |
| Virtex-5 FPGA ML506<br>www.xilinx.com/ml506   | General-purpose FPGA, DSP, and RocketIO GTP transceiver development board                  | HW-V5-ML506-UNI-G  | XC5VXS50TFF1136                        | DDR2 SO-DIMM (256 MB), ZBT SRAM (1 MB), Linear, platform, and SPI flash, System ACE CompactFlash, JTAG Header or External JTAG Connector, 2x USB, 2x PS/2, 10/100/1000 Ethernet, RS-232, 2x Audio In/Out, DVI/VGA Video, XGI Expansion Port, MGT support with PCI Express, SFP, SMA, SGMII  |
| Virtex-5 FPGA ML507<br>www.xilinx.com/ml507   | General-purpose FPGA, PPC@440 processor, and RocketIO GTX transceiver development platform | HW-V5-ML507-UNI-G  | XC5VFX70TFF1136                        | DDR2 SO-DIMM (256 MB), ZBT SRAM (1 MB), Linear, platform, and SPI flash, System ACE CompactFlash, JTAG Header or External JTAG Connector, 2x USB, 2x PS/2, 10/100/1000 Ethernet, RS-232, 2x Audio In/Out, DVI/VGA Video, XGI Expansion Port, MGT support with PCI Express, SFP, SMA, SGMII  |
| Virtex-5 FPGA ML510<br>www.xilinx.com/ml510   | Advanced hardware/software embedded processing development platform                        | HW-V5-ML510-G      | XC5VFX130T-FFG1738                     | 32-bit component DDR memory and 64-bit DDR2 DIMM, 512 MB CompactFlash card and System ACE CompactFlash controller for configuration, Two onboard 10/100/1000 Ethernet PHYs with RJ-45 connectors, Two PCI Express® interface, VGA graphics interface, ATX Form Factor, 4x PCI 32-bit/33MHz slots, 2x USB ports, 2x SATA ports, 2x RS-232, 2x PS/2, XPM Expansion Port |
| Virtex-5 FPGA ML523<br>www.xilinx.com/ml523   | RocketIO GTP transceiver characterization development platform                             | HW-V5-ML523-UNI-G  | XC5VLX110T-FF1136                      | 16 RocketIO GTP Transceivers connected to SMA pairs, 8 RocketIO GTP REFCLK inputs connected to SMA pairs, SuperClk module supporting a wide range of clock frequencies, Power indicator LEDs, General-purpose DIP switches, LEDs, and pushbutton switches   |
| Virtex-5 FPGA Gigabit Ethernet Development Kit<br>www.xilinx.com/gbedevkit              | Virtex-5 FPGA Gigabit Ethernet development   | HW-V5GBE-DK-UNI-G  | XC5VLX50T-1FF1136C                     | Quick Start Guide and platform USB programming cable, ISE® evaluation software and access to LogiCORE™ IP, Resource CD (reference designs, labs, and demonstrations), Connectors: GbE - SFP and RJ-45 connectors, 10/100 Mb/s, RJ-45 connector  |
| Virtex-5 LXT Development Kit for PCI Express, PCI-X and PCI<br>www.xilinx.com/v5pciekit | Application development board for PCI Express and PCI                                      | HW-V5-ML555-G      | Virtex-5 FPGA LXT XC5VLX50T-1FF1136CES | Quick Start Guide and platform USB programming cable, ISE evaluation software and access to LogiCORE IP, Resource CD (reference designs, labs, and demonstrations), Connectors: PCIe - 8-lane add-in card connector, PCI/PCI-X; standard edge connector   |
| Virtex-5 FPGA Embedded Kit<br>www.xilinx.com/v5embedded                                 | Advanced embedded processing development kit   | DK-V5-EMBD-ML507-G | X5LX50T-1FFG1136C                      | Powerful Virtex-5 FPGA MC507 development board, Full seat of Platform Studio Embedded tool suite, Full seat of ISE Foundation™ FPGA design software, Reference designs, USB JTAG probe, flash device, cables, and power supply  |

## Virtex-4 FPGA Development Boards and Kits

| Product Name                                | Purpose   | Part Number       | Devices Supported  | Features   |
|---|---|-------------------|--------------------|--|
| Virtex-4 FPGA ML401<br>www.xilinx.com/ml401 | General-purpose FPGA development board                          | HW-V4-ML401-UNI-G | XC4VLX25-FF668     | 64 MB DDR SDRAM, ZBT synchronous SRAM, 10/100/1000 tri-speed Ethernet PHY transceiver, USB interface device with host and peripheral ports, RS-232 serial port, XGI Expansion Port   |
| Virtex-4 FPGA ML402<br>www.xilinx.com/ml402 | General-purpose FPGA/DSP development board                      | HW-V4-ML402-UNI-G | XC4VXS35-FF668     | 64 MB DDR SDRAM, ZBT synchronous SRAM, 10/100/1000 tri-speed Ethernet PHY transceiver, USB interface device with host and peripheral ports, RS-232 serial port, XGI Expansion Port   |
| Virtex-4 FPGA ML403<br>www.xilinx.com/ml403 | General-purpose FPGA/PPC processor development board            | HW-V4-ML403-UNI-G | XC4VFX12-FF668     | 64 MB DDR SDRAM, ZBT synchronous SRAM, 10/100/1000 tri-speed Ethernet PHY transceiver, USB interface device with host and peripheral ports, RS-232 serial port, XGI Expansion Port   |
| Virtex-4 FPGA ML405<br>www.xilinx.com/ml405 | General-purpose FPGA/PPC/RocketIO transceiver development board | HW-V4-ML405-UNI-G | XC4VFX20-FF672     | 128 MB SDRAM DDR SDRAM, ZBT synchronous DRAM, MGT: Serial ATA host connectors (x2), MGT: SFP connector (x1), MGT: SMA connector connected to one RocketIO MGT, XGI Expansion Port  |
| Virtex-4 FPGA ML410<br>www.xilinx.com/ml410 | Embedded system development platform                            | HW-V4-ML410-UNI-G | XC4VFX60-11FFG1152 | ATX form factor motherboard, 64 MB DD and 256 MB DDR2 DIMM, 512 MB CompactFlash card and System ACE CompactFlash controller for configuration, 10/100/1000 tri-speed Ethernet PHY transceiver, RJ-45 connectors (x2), XPM Expansion Port                   |
| Virtex-4 FPGA ML423<br>www.xilinx.com/ml423 | RocketIO transceiver characterization                           | HW-V4-ML423-UNI-G | XC4VFX100-11FF1152 | 20 RocketIO GTP Transceivers connected to SMA pairs, 10 RocketIO GTP REFCLK inputs connected to SMA pairs, SuperClk module supporting a wide range of clock frequencies, Power indicator LEDs, General-purpose DIP switches, LEDs, and pushbutton switches |

Important: Verify all data in this document with the device data sheets found at [www.xilinx.com](http://www.xilinx.com)

| Spartan®-6 FPGA Development Boards and Kits   |  |  |                     |   |
|---|--|--|---------------------|---|
| Product Name  | Purpose  | Part Number                              | Devices Supported   | Features  |
| Spartan-6 FPGA SP601 Evaluation Kit<br><a href="http://www.xilinx.com/sp601">www.xilinx.com/sp601</a>   | General-purpose FPGA development board                                     | EK-S6-SP601-G<br>EK-S6-SP601-G-J (Japan) | XC6SLX16-CS324      | Onboard configuration circuitry, Quad SPI flash 64 MB, 16 MB parallel (BPI) flash, DDR2 component memory 128 MB   |
| Spartan-6 FPGA SP605 Evaluation Kit<br><a href="http://www.xilinx.com/sp605">www.xilinx.com/sp605</a>   | General-purpose FPGA evaluation board                                      | EK-S6-SP605-G<br>EK-S6-SP605-G-J (Japan) | XC6SLX45T-FGG484 -3 | Onboard JTAG configuration circuitry, 128 MB Platform Flash XL, Quad SPI flash 64 MB, System ACE 2G CompactFlash card   |
| Avnet Spartan-6 LX150T Development Kit<br><a href="http://www.xilinx.com/products/devkits/AES-S6DEV-LX150T-G.htm">http://www.xilinx.com/products/devkits/AES-S6DEV-LX150T-G.htm</a>         | General-purpose FPGA evaluation board                                      | AES-S6DEV-LX150T-G                       | XC6SLX150T-3FGG676  | The Xilinx Spartan-6 LX150T Development Kit provides a complete development platform for designing and verifying applications based on the Xilinx Spartan-6 LXT FPGA family.  |
| Avnet Spartan-6 LX16 Evaluation Kit<br><a href="http://www.xilinx.com/products/devkits/AES-S6EV-LX16-G.htm">http://www.xilinx.com/products/devkits/AES-S6EV-LX16-G.htm</a>                  | General-purpose FPGA evaluation board                                      | AES-S6EV-LX16-G                          | XC6SLX16-CSG324     | Utilizing Spartan-6, Avnet introduces the first-ever battery-powered Xilinx FPGA development board, the Xilinx Spartan-6 LX16 Evaluation Kit.   |
| Spartan-6 FPGA Embedded Kit<br><a href="http://www.xilinx.com/products/devkits/DK-S6-EMBD-G.htm">http://www.xilinx.com/products/devkits/DK-S6-EMBD-G.htm</a>                                | Spartan-6 FPGA Embedded Kit  | DK-S6-EMBD-G<br>DK-S6-EMBD-G-J (Japan)   | XC6SLX45T-FGG484 -3 | Embedded Design Platforms enable rapid software application development as well as easy customization of the processor hardware subsystems.   |
| Spartan-6 FPGA Connectivity Kit<br><a href="http://www.xilinx.com/products/devkits/DK-S6-CONN-G.htm">http://www.xilinx.com/products/devkits/DK-S6-CONN-G.htm</a>                            | Spartan-6 FPGA Connectivity Kit  | DK-S6-CONN-G<br>DK-S6-CONN-G-J (Japan)   | XC6SLX45T-FGG484 -3 | The Spartan®-6 FPGA Connectivity kit is a complete, easy-to-use Connectivity Development and Demonstration platform for designing with standards based protocols – PCIe®, Ethernet, implementing low-cost protocol bridging, providing higher efficiency alternative to LVDS communication, etc in multiple market segments.  |
| Spartan-6 FPGA DSP Kit<br><a href="http://www.xilinx.com/products/devkits/AES-S6DSP-LX150T-G.htm">http://www.xilinx.com/products/devkits/AES-S6DSP-LX150T-G.htm</a>                         | Spartan-6 FPGA DSP Development   | AES-S6DSP-LX150T-G                       | XC6SLX150T-3        | Wireless, aerospace and defense, instrumentation and medical imaging applications continue to demand greater performance to support standards, while high-level design flows continue to improve to provide an easier entry point for using FPGAs for DSP.  |
| Spartan-6 FPGA Industrial Ethernet Kit<br><a href="http://www.xilinx.com/products/devkits/AES-S6IEK-LX150T-G.htm">http://www.xilinx.com/products/devkits/AES-S6IEK-LX150T-G.htm</a>         | Spartan-6 FPGA Industrial Ethernet Developmet                              | AES-S6IEK-LX150T-G                       | XC6SLX150T-3FGG676  | The Spartan-6 FPGA Industrial Ethernet Kit is a comprehensive design environment for rapid prototyping and development of leading edge industrial applications in connectivity, motor control, and embedded processing.   |
| Spartan-6 FPGA Industrial Video Processing Kit<br><a href="http://www.xilinx.com/products/devkits/AES-S6IVK-LX150T-G.htm">http://www.xilinx.com/products/devkits/AES-S6IVK-LX150T-G.htm</a> | Spartan-6 FPGA Industrial Video Processing                                 | AES-S6IVK-LX150T-3FGG676                 | XC6SLX150T-3        | The Spartan-6 FPGA Industrial Video Processing Kit is a comprehensive design environment for rapid prototyping and streamlined development of high resolution video conferencing, video surveillance and machine vision systems.  |
| Spartan-6 FPGA Consumer Video Kit<br><a href="http://www.xilinx.com/products/devkits/TB-6S-CVK.htm">http://www.xilinx.com/products/devkits/TB-6S-CVK.htm</a>                                | Spartan-6 FPGA Consumer Video  | TB-6S-CVK                                | XC6SLX150T-3        | Speed up development of video algorithms and incorporate the latest video interface standards right out of the box. The Spartan-6 FPGA Consumer Video Kit is a comprehensive design environment for developing and debugging advanced video algorithms.   |
| Spartan-3 FPGA Development Kits   |  |  |                     |   |
| Product Name  | Purpose  | Part Number                              | Devices Supported   | Features  |
| Spartan-3A FPGA Starter Kit<br><a href="http://www.xilinx.com/s3astarter">www.xilinx.com/s3astarter</a>   | Low-cost Spartan-3A FPGA board evaluation kit                              | HW-SPAR3A-SK-UNI-G                       | XC3S700A-FG484      | Evaluation board with Spartan-3A FPGA, onboard 10/100 Ethernet PHY, SPI based ADC and DAC circuitry, 64 MB DDR2, two 16 Mb SPI serial flash. Interfaces include a 2x16 LCD display and various I/O ports, including a PS/2 port, a VGA display port, and two serial ports. Kit includes evaluation board, power supply with universal adaptors, programming cable, quick-start guide, design tools, evaluation software, and collateral.      |
| Spartan-3AN FPGA Starter Kit<br><a href="http://www.xilinx.com/s3anstarter">www.xilinx.com/s3anstarter</a>  | Low-cost Spartan-3AN FPGA board evaluation kit                             | HW-SPAR3AN-SK-UNI-G                      | XC3S700AN-4FGG484C  | Evaluation board with Spartan-3AN FPGA, onboard 10/100 Ethernet PHY, SPI based ADC and DAC circuitry, 64 MB DDR2, and two 16 Mb SPI serial flash. Interfaces include a 2x16 LCD display and various I/O ports, including a PS/2 port, a VGA display port, and two serial ports. Kit includes evaluation board, power supply with universal adaptors, programming cable, quick-start guide, design tools, evaluation software, and collateral. |
| Spartan-3A DSP FPGA 1800A Edition XtremeDSP™ Solution Starter Board<br><a href="http://www.xilinx.com/s3adsstarter">www.xilinx.com/s3adsstarter</a>   | Low-cost, entry-level environment for developing signal processing designs | HW-SD1800A-DSP-SB-UNI-G                  | XC3SD1800A-4FGG676C | Memory: 128 MB (32M x 32) DDR2 SDRAM; 16M x 8 parallel / BPA configuration flash; 64 Mb SPI configuration/storage flash (with 4 extra SPI selects), EXP expansion connector   |
| Spartan-3E FPGA Starter Kit<br><a href="http://www.xilinx.com/s3estarterkit">www.xilinx.com/s3estarterkit</a>   | Low-cost Spartan-3E FPGA development kit                                   | HW-SPAR3E-SK-UNI-G                       | XC3S700A-FG484      | Evaluation board with Spartan-3E FPGA, CoolRunner™-II CPLD, 128 Mb parallel flash, 16 Mb SPI flash, 64 MB DDR SDRAM, Interfaces include Ethernet 10/100 PHY, two RS-232 serial ports, PS/2 style mouse/keyboard, 2x16 character LCD, Kit includes evaluation board, power supply with universal adaptors, programming cable, quick-start-guide, design tools evaluation software, and collateral.   |
| XtremeDSP Solution Video Kit<br><a href="http://www.xilinx.com/vsk_s3">www.xilinx.com/vsk_s3</a>  | Video application development on Spartan-3A FPGAs                          | DO-SEADSP-VIDEO-SK-UNI-G                 | XC3SD3400A-4FGG676C | Includes full seats of System Generator and EDK, Example video reference designs, Complete documentation, Platform USB cable, power supply, and video cables, Carrier board: Spartan-3A FPGA DSP DPFA F3400A Development Board, Mezzanine card: FMC-video   |
| Spartan-3A DSP S3D1800A MicroBlaze Processor Edition Embedded Development HW/SW Kit<br><a href="http://www.xilinx.com/s3adspmb">www.xilinx.com/s3adspmb</a>                                 | Flexible embedded processing development kit                               | DO-SD1800A-EDK-DK-UNI-G                  | XC3SD1800A-4FGG676C | Full seat of Platform Studio embedded tool suite, ISE WebPACK FPGA design software, Reference designs, USB programming download cable, UART, Ethernet cables and power supply   |
| Spartan-3A DSP FPGA 3400A Edition XtremeDSP Solution Development Platform<br><a href="http://www.xilinx.com/s3adap_dp">www.xilinx.com/s3adap_dp</a>   | Spartan-3A FPGA DSP application development solution                       | HW-SD3400A-DSP-DB-UNI-G                  | XC3SD3400A-4FGG676C | Onboard 256 MB DDR2 SDRAM, 256 Mb flash; 9 Mb ZBT SRAM; 32 Mb Platform flash 16 Mb SPI EEPROM; 256 MB CompactFlash, Two FMC and a LPC expansion connector   |

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### CPLD Starter Kits

| Product Name  | Purpose                               | Part Number | Devices Supported | Features   |
|---|---------------------------------------|-------------|-------------------|--|
| CoolRunner-II CPLD Starter Kit Featuring the DataGATE Low-Power Advantage<br><a href="http://www.xilinx.com/products/devkits/SK-CRII-L-G.htm">www.xilinx.com/products/devkits/SK-CRII-L-G.htm</a> | General-purpose CPLD evaluation board | SK-CRII-L-G | XC2C256-TQ144     | Complete 'out-of-the-box' evaluation platform, CoolRunner-II CPLD utility window, Easy set-up and monitoring, DataGATE evaluation "switch", Free reference designs |

### FMC Daughter-cards

| Product Name   | Purpose                        | Part Number    | Devices Supported | Features   |
|--|--------------------------------|----------------|-------------------|--|
| FMC Debug Mezzanine Card<br><a href="http://www.xilinx.com/products/devkits/HW-FMC-DBG-G.htm">www.xilinx.com/products/devkits/HW-FMC-DBG-G.htm</a> | FMC XM105 Debug Mezzanine Card | HW-FMC-XM105-G |                   | VITA 57.1 FMC HPC connector, Single-ended signals from the carrier board, clocks, JTAG, and power, 40 single-ended I/O (20 pairs) on the LPC pins, 80 single-ended I/O (40 pairs) on the HPC pins, Mictor connector 38 pins female Mictor connector  |
| FMC XM104 Connectivity Card<br><a href="http://www.xilinx.com/xm104">www.xilinx.com/xm104</a>  | FMC Connectivity               | HW-FMC-XM104-G |                   | The FMC XM104 Connectivity Card is designed to provide access to eight serial transceivers on the FMC HPC connector found on Xilinx FMC-supported boards including Virtex®-6 ML605. These eight serial transceivers can be accessed through one CX4 (x4 transceivers), two SATA (x2 transceivers), and eight SMA (x2 transceivers) connectors. |

XMP080 (v1.0)

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