# Table A--Evaluation boards and reference designs

| Company | Product | Supported vendors, architectures and devices | Other included hardware | Bundled software and documentation | PC interface | Other features | Price |
|---|---|---|---|---|---|---|---|
| All American Semiconductor | iKit2000 Internet Appliance Development Kit | Triscend E5 (TE520S40) | 40 MHz embedded high-performance 8-bit 8051 microcontroller, 40Kx8 embedded SRAM, Seiko S7600 TCP/IP protocol engine, 256Kx8 program/configuration Flash, 2x16 character LCD display, DB8 serial port connector, RS-232 driver, JTAG download/debugging port | Triscend FastChip 2.x Development System CD-ROM (full license); Kit2000 CD-ROM with complete documentation, board schematics; embedded Web server application; Keil µVision2 compiler/assembler/ debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM | RS-232 serial port | AC power adapter, Macraigor Wiggler JTAG download/debug cable, null modem cable, prototyping expansion card | $695 |
| Altera | Nios Embedded Processor Development Kit | Altera APEX 20K200E | Flash, SRAM, RS-232 | SOPC Builder, Quartus II LE, GNUPro toolkit | RS-232, JTAG | Two expansion headers, SODIMM socket, PMC sockets | $995 |
| Altera | Nios Ethernet Development Kit | All Altera NIOS-compatible devices | Ethernet cable and cross-over adapter | · SOPC Builder library component, Nios Ethernet reference designs, C-language network protocol library (with source code), Web server application software, Raw Ethernet, Address resolution protocol (ARP), Internet protocol (IP), Internet control message protocol (ICMP), User datagram protocol (UDP), Transmission control protocol (TCP | NA | Accessory kit for Nios Development Kit, plugs directly into the Nios development board, stackable module (up to 4 per Nios development board) | $495 |
| Altera | EPXA10 Development Kit | Altera XA10 ARM-based Excalibur device | 16MB Flash, 128MB SDRAM, 10/100 Ethernet MAC & PHY, dual RS-232, dual PCI slots, expansion headers, ByteBlasterMV, JTAG, ETM9 trace port, MultiICE connector | Excalibur Solutions Pack (Excalibur Utilities & Resource CD which includes SOPC Builder, IP, Stripe Simulator, reference designs and documentation), third-party evaluation and demo software which include the XRAY debugger from Mentor, VxWorks AE from WindRiver Systems, Embedded Linux from Red Hat, OSE from OSE Systems, Nucleus Plus from Accelerated Technologies Inc. and EASI-Integrator tools from Beach Solutions | 10/100 Ethernet or RS-232 serial | Push-button LEDs/switches, power supply, cables | $9,995 |

## Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Altera | DSP Pro | Altera APEX 20K1500E | Two 12-bit 65 MHz ADCs, two 14-bit 125 MHz DACs, 256 Kbytes of external high-speed SRAM | System-reference designs, DSP Builder software (Quartus II and MATLAB/Simulink interface), Simulink evaluation CDROM, OpenCore Plus hardware evaluation files | RS-232, JTAG | * 7 user--definable switches, 3 user-definable LEDs, prototyping area, on-board oscillator and external oscillator input | $3,995 |
| Altera | DSP Starter | Altera APEX 20K200E | Two 10-bit 40 MHz ADCs, two 10-bit 125 MHz DACs, 128 Kbytes of external high-speed SRAM | System-reference designs, DSP Builder software (Quartus II and MATLAB/Simulink interface), Quartus II Limited edition (included with the starter kit only), Simulink evaluation CDROM, OpenCore Plus hardware evaluation files | RS-232, JTAG | 7 user-defininable switches, 3 user-definable LEDs, prototyping area, on-board oscillator and external oscillator input | $995 |
| Altera | APEX 20KE PCI Development Kit | Altera APEX 20K1000E | * On-board 144-pin small outline DIMM 32-Mbyte SDRAM module, on-board standard PCI mezzanine card (PMC) connector, supports 16 RX and TX channel LVDS, I/O prototype area through Altera daughter card socket, RS-232 port, on-board voltage regulator automatically generates 1.8 V and 2.5 V from a 3.3-V power supply (3.3-V can be supplied through the PCI connector or from a stand-alone power supply, flexible clocking options for the local-side logic from the PCI clock and crystal oscillator, supports 5.0-V only PC systems with a 3.3-V extender card for 3.3-V systems | Open-source 32-bit or 64-bit PCI reference design, features the pci_mt64 MegaCore function (development license not included), supports chaining and non-chaining DMA access, SDRAM controller, Windows application allows demonstration and debug of transactions across the PCI local bus | PCI | Supports 33MHz PCI interfaces | $5,995 |

## Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Altera | APEX 20KE PCI Development Kit | Altera APEX 20K400E | * On-board 144-pin small outline DIMM 32-Mbyte SDRAM module, on-board standard PCI mezzanine card (PMC) connector, supports 16 RX and TX channel LVDS, I/O prototype area through Altera daughter card socket, RS-232 port, on-board voltage regulator automatically generates 1.8 V and 2.5 V from a 3.3-V power supply (3.3-V can be supplied through the PCI connector or from a stand-alone power supply, flexible clocking options for the local-side logic from the PCI clock and crystal oscillator, supports 5.0-V only PC systems with a 3.3-V extender card for 3.3-V systems | Open-source 32-bit or 64-bit PCI reference design, features the pci_mt64 MegaCore function (development license not included), supports chaining and non-chaining DMA access, SDRAM controller, Windows application allows demonstration and debug of transactions across the PCI local bus | PCI | Supports 33 and 66MHz PCI interfaces | $2,995 |

## Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Altera | FLEX PCI Development Kit | Altera FLEX 10K200S | I/O space for custom prototyping, DB9 connector for RS-232 serial communication, standard 64-bit PMC connector144-pin small outline DIMM 32-Mbyte SDRAM module, supports non-volatile programming using Altera EPC2 configuration devices, or in-circuit reconfiguration with a ByteBlasterMV download cable (included), flexible power (for PCI card or desktop use) and clocking options (PCI clock, on-board crystal oscillator (not included), or external clock connector) | PCI Device Driver evaluation software with included source code, Windows-based program for design analysis and system performance measurement, includes a source code demonstration design with the pci_mt64 MegaCore function, SDRAM controller, and a direct memory access (DMA) engine | PCI | Supports 33 and 66MHz PCI interfaces | $1,995 |
| Altera | PCI/MT64 Reference Design | Altera | NA | Verilog HDL source files, synthesis and place-and-route project files, and functional and timing simulation environment | NA | This reference design shows how to connect the local-side signals of the Altera pci_mt64 MegaCore function to local-side applications when the MegaCore function is used as a master or target on the peripheral component interconnect | Free |

**Table A--Evaluation boards and reference designs**

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|---|---|---|---|---|---|---|---|
| Altera | PCI/MT32 Reference Design | Altera | NA | Verilog HDL source files, synthesis and place-and-route project files, and functional and timing simulation environment | NA | This reference design is a design example that illustrates how to interface local logic to the pci_mt32 MegaCore function. The reference design includes a target and a master interface to the pci_mt32 function and the SDRAM memory. The DMA engine is implemented in the local logic and causes the pci_mt32 function to operate as a bus master. The design implements a FIFO interface to solve latency issues when data is transferred between the PCI bus and the SDRAM | Free |
| Altera | Verilog HDL: QDR SRAM Controller | Altera APEX II or Stratix | NA | Verilog HDL source files, synthesis and place-and-route project files, and functional and timing simulation environment | NA | Allows Altera device to interface with QDR SRAM memory interfaces provided by other vendors | Free |
| Altera | VHDL: ZBT SRAM Controller | Altera APEX II | NA | VHDL source files, synthesis and place and route project files, and functional and timing simulation environments | NA | Interfaces with ZBT memory to adapt to 200 MHz data transfer | Free |

## Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Altera | SDR SDRAM Controller Reference Design | Altera APEX | NA | VHDL source files, synthesis and place and route project files, and functional and timing simulation environments | NA | The single data rate (SDR) synchronous dynamic random access memory (SDRAM) Controller provides a simplified interface to industry standard SDR SDRAM memory | Free |
| Altera | FS 14: Direct Sequence Spread Spectrum (DSSS) Modem Reference Design | Altera APEX DSP development board (features EP20K200E or 20K1500E device) | NA | VHDL source code (except for IP cores) and a simulation library and test bench for simulation in ModelSim simulators | NA | Spread spectrum modulator/demodulator subsystem that can be used as a starting point for a complete 3G or fixed wireless modem | Free |
| Altera | POS-PHY Level 4/POS-PHY Level 3 Bridge Reference Design | Altera APEX II | NA | VHDL source files, synthesis and place and route project files, and functional and timing simulation environments | NA | Can be used to bridge packet or cell traffic from a single OC-192c SONET/SDH stream (single-PHY) to four OC-48 network processors | Free |
| Atmel | ATF15xx-DK | Atmel ATF1508 | JTAG ISP, eight 8-segment LEDs, ATDH1150VPC 5V/3.3V ISP cable | ProChip Designer, Atmel-WinCUPL, Fitters, ATMISP software, Logic Doubling white paper and reference designs | parallel port | Atmel Databook CD | $99 |
| Avnet | Xilinx Virtex-E FPGA Development Kit | Xilinx Virtex-E 1000E-6F1156 | Video decoder, RAMDAC, stereo DAC | User's guide, bill of materials, schematics | PCI, PC card connector, PCI mezzanine connector, RS-232, USB, Ethernet | 64 Mbyte SDRAM, 32 Mbyte Flash | $1,495 |

# Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Avnet | Xilinx Spartan-IIE Evaluation Board | Xilinx Spartan-IIE 2SC00E-6FT256C | Dual digit 7 segment LED display, push buttons | User's guide, bill of materials, schematics, same design source code, power supply | AvBus expansion connectors, logic analyzer connectors, RS-232 | Selectable voltage regulators, temp. sensor, LVDS interface | $249 |
| Avnet | Xilinx Virtex-II Development Board | Virtex-II 1500-FF896 | 40MHz,50MHz, and 66.66MHz oscillators, 8 LEDs, DIP switches | User's guide, bill of materials, schematics, demonstration code | RS-232, LVDS port, PCI-X interface | 133MHz, 128 MB DDR SDRAM DIMM, 16MB flash memory | $1,000 |
| Avnet | Xilinx Virtex-II Development Kit populated with a Virtex-II 4000 device | Xilinx Virtex-II 4000 | 40MHz,50MHz, and 66.66MHz oscillators, 8 LEDs, DIP switches | User's guide, bill of materials, schematics, demonstration code | RS-232, LVDS port, PCI-X Interface | 133MHz, 128 MB DDR SDRAM DIMM, 16MB FLASH memory | $2,500 |
| Avnet | Virtex-II Development Kit bundled with Communicati on/Memory Module and MicroBlaze Core License | Xilinx Virtex-II 1500-FF896 | 40MHz,50MHz, and 66.66MHz oscillators, 8 LEDs, DIP switches | User's guide, bill of materials, schematics, demonstration code, MicroBlaze reference manual | RS-232, LVDS port, PCI-X interface | MicroBlaze development kit, GNU-based software tools | $1,400 |
| Avnet/Silica | Delta39K Evaluation Board | Cypress Delta39K | Evaluation board, programming cable | LED bar demo, audio demo | NA | See www.silica.com/eval_kits/cyp-20010813silicaw.html | 525 Euros |
| Cypress | CY3900I | Cypress Ultra37000, Delta39K | Evaluation board, programming cable | ISR programming s/w, application notes | NA | The board contains 1 Ultra37000 and 1 Delta39K device and a large prototyping area | $99 |
| Cypress | WarpISR | Cypress Ultra37000, Delta39K | Evaluation board, programming cable | Warp, ISR programming s/w, application notes | NA | The board contains 1 Ultra37000 and 1 Delta39K device and a large prototyping area | $175 |

## Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Cypress | Hotlink II with PSI Development Kit | Cypress CYP15G04K100 | Evaluation board, programming cable | Warp, ISR programming s/w, user's guide | NA | Allows testing of DVB, SMPTE, FC,GigE standards | $995 |
| Cypress | 2.5G SerDes with PSI Development Kit | Cypress CYP25G01K100 | Evaluation board, programming cable | Warp, ISR programming s/w, user's guide | NA | Fully functional InfiniBand core available with test benches | $995 |
| Cypress | OC-48/STM-16 SerDes with PSI Development Kit | Cypress CYS25G01K100 | Evaluation board, programming cable | Warp, ISR programming s/w, user's guide | NA | Optical module on board for SONET jitter verification | $1,995 |
| Embedded Performance | DEV-A7 | Triscend A7 (TA7S20) | 60 MHz embedded ARM7TDMI 32-bit RISC CPU, 4Kx32 embedded SRAM, 32Mbytes SDRAM, 8Mbytes program/configuration Flash, 10Base-T Ethernet MAC/PHY, two RS-232C serial ports, DB9 serial connector, 7-segment LED, expansion connector, JTAG download/debugging port | Triscend FastChip 2.x CD-ROM (evaluation version), Flash download software, complete documentation, board schematics | Ethernet, RS-232 serial port | AC power adapter | $1,995 |
| INEW Data Communications | IN-DVK-CORE Pack I | Triscend E5 (TE512S32) | 40 MHz embedded high-performance 8-bit 8051 microcontroller, 32Kx8 embedded SRAM, 128Kx8(upto 512Kx8) program/configuration Flash, 128Kx8 SRAM, JTAG download/debugging port | Triscend FastChip 2.x CD-ROM (evaluation license), complete documentation, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM | Parallel port | Requires external DC 5V | $130 |

# Table A--Evaluation boards and reference designs

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| INEW Data Communications | IN-DVK-CORE Pack II | Triscend E5 (TE520S40) | 40 MHz embedded high-performance 8-bit 8051 microcontroller, 40Kx8 embedded SRAM, 128Kx8 program/configuration Flash, 128Kx8 SRAM, JTAG download/debugging port | Triscend FastChip 2.x CD-ROM (evaluation license), complete documentation, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM, (evaluation version) | Parallel port | Requires external DC 5V | $170 |
| INEW Data Communications | IN-DVK-CORE Pack IV | Triscend A7 (TA7S20) | 60 MHz embedded ARM7TDMI 32-bit RISC CPU, 4Kx32 embedded SRAM, JTAG download/debugging port | Triscend FastChip 2.x CD-ROM (evaluation license), complete documentation, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM(evaluation version) | Parallel port | Requires external DC 5V | Depends on options |
| INEW Data Communications | IN-DVK-BASE Base Board | Triscend E5 (TE505S16) | 40 MHz embedded high-performance 8-bit 8051 microcontroller, 16Kx8 embedded SRAM, 128Kx8 program/configuration Flash, 128Kx8 SRAM, text LCD display, four 7-segment LED displays, LEDs, VGA monitor connector, DB9 serial port connector, PS/2 serial port connector, JTAG download/debugging port | Triscend FastChip 2.x CD-ROM (full license), complete documentation, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM | RS-232 serial port, PS/2 serial port | Parallel port download cable, AC power adapter | $220 |
| INEW Data Communications | IN-DVK-EXPERT Base Board | Triscend E5 or A7 | Base Board for designing embedded systems using application modules. Supports up to seven application modules. Including protected power supply circuitary. MCP (Main Control Panel) controls memory selection, download method. Includes 2x16 character LCD core pack. | Triscend FastChip 2.x CD-ROM (full license), complete documentation, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM(evaluation version), OrCAD Capture Lite Edition CD-ROM(evaluation version) | Parallel port | Hard-shell carrying case, parallel port download cable, AC power cable. | $1,100 |

# Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| INEW Data Communications | IN-DVK-EXPANSION Base Board | Triscend E5 or A7 | Base Board for designing embedded systems using application modules. Supports up to three application modules. Including protected power supply circuitary. MCP (Main Control Panel) controls memory selection, download method. Includes 2x16 character LCD core pack. | Triscend FastChip 2.x CD-ROM (full license), complete documentation, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM (evaluation version) | Parallel port | Hard-shell carrying case, parallel port download cable, AC power cable. | $535 |
| INEW Data Communications | IN-DVK-I/O PACK (application board) | Triscend E5 or A7 | Application module for INEW DVK Series.  8 LEDs, four 7-segment LEDs, VGA monitor connector, DB9 RS-232 serial connector, 4 Push buttons,  8 DIP-switch, PS/2 port connector | Application manual, Board Schematic | RS-232 serial port, PS/2 serial port | | $78 |
| INEW Data Communications | IN-DVK-CDMA PACK (application board) | Triscend E5 or A7 | Application module for INEW DVK Series.  IS-95A/B CDMA protocol support, analog audio interface, IS-707 asynchronous data service, IS-637 short message services, IS-127 EVRC, Serial communication. | Application manual, Board Schematic | RS-232 interface | | $330 |
| INEW Data Communications | IN-DVK-RF PACK (application board) | Triscend E5 or A7 | Application module for INEW DVK Series. RF transceiver with FSK modulation, 433.92 MHz/434.33 MHz, 20Kbps serial data communications rate, 100 meter maximum range | Application manual, Board Schematic | RS-232 interface | | $200 |

# Table A--Evaluation boards and reference designs

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| INEW Data Communications | IN-DVK-USB 1.1 PACK (application board) | Triscend E5 or A7 | Application module for INEW DVK Series. USB 1.1 full-speed data interface, 128-byte FIFO for each attached endpoint | Application manual, Board Schematic | | | Depends on options |
| INEW Data Communications | IN-DVK-A/D PACK (application board) | Triscend E5 or A7 | Application module forI NEW DVK Series. Analog to digital converter, 0 to +5V input range, 8-channel analog multiplexer. | Application manual, Board Schematic | | | $78 |
| INEW Data Communications | IN-DVK-D/A PACK (application board) | Triscend E5 or A7 | Application module for INEW DVK Series.  Digital-to-analog converter. | Application manual, Board Schematic | | | $78 |
| INEW Data Communications | IN-DVK-STEP MOTOR PACK (application board) | Triscend E5 or A7 | Application module for INEW DVK Series.  Stepper motor driver for two motors | Application manual, Board Schematic | | | $70 |
| INEW Data Communications | IN-DVK-GLCD PACK (application board) | Triscend E5 or A7 | Application module for INEW DVK Series. Monochrome FSTN LCD panel, 240x320 pixels with backlight | Application manual, Board Schematic | | | $300 |
| Inicore | ProASIC Plus Development Board | Actel ProASIC 500K and ProASIC Plus devices | Atmel ARM processor, LVPECL Clock, LVPECL SMA connectors, LCD, 2 Mbytes SRAM, 4 Mbytes flash memory | STAPL player source code, user Guide, FAQ | RS232 | Ability to plug into a mezzanine card | $2,495 |
| Kanda | PLD Starter Kit | Atmel 16V8/20V8/22V10 SPLD products | Programming board | CUPL, Get Going With PLDs book | NA | Atmel databook CD | $159 |
| Lattice Semiconductor | ORT8850 - 8 Channel, 6.8 Gb/s, Backplane Transceiver - Evaluation Board | Lattice ORCA Series 4 FPSC | ORCA serial cable, power adapter | Schematic, user manual | ORCA serial cable | NA | $9,999 |

**Table A--Evaluation boards and reference designs**

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|---|---|---|---|---|---|---|---|
| Lattice Semiconductor | ORT/SO82G5 - 8 Channel, 3.125 Gb/s (each), Backplane Transceiver - Evaluation Board | Lattice ORCA Series 4 FPSC | ORCA serial cable, power adapter | Schematic, user manual | ORCA Serial Cable | NA | $9,999 |
| Lattice Semiconductor | ORLI10G - XSBI 10Gb/s, Transmit/Receive Line Interface - Evaluation Board | Lattice ORCA Series 4 FPSC | ORCA serial cable, power adapter | Schematic, user manual | ORCA Serial Cable | NA | $9,999 |
| Lattice Semiconductor | OR4E Evaluation Board | Lattice ORCA Series 4 FPSC | ORCA serial cable, power adapter | Schematic, user manual | ORCA Serial Cable | NA | $9,999 |
| Lattice Semiconductor | ORT8850 - 8 Channel, 6.8 Gb/s, Backplane Transceiver - FPSC Design Kit | Lattice ORCA Series 4 FPSC | NA | Hard IP simulation model, user documents, release notes, install instructions | Software design kit | NA | Free (downloadable) |
| Lattice Semiconductor | ORT/SO82G5 - 8 Channel, 3.125 Gb/s (each), Backplane Transceiver - FPSC Design Kit | Lattice ORCA Series 4 FPSC | NA | Hard IP simulation model, user documents, release notes, install instructions | Software design kit | NA | Free (downloadable) |

**Table A--Evaluation boards and reference designs**

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|---|---|---|---|---|---|---|---|
| Lattice Semiconductor | ORLI10G - XSBI 10Gb/s, Transmit/Receive Line Interface - FPSC Design Kit | Lattice ORCA Series 4 FPSC | NA | Hard IP simulation model, user documents, release notes, install instructions | Software design kit | NA | Free (downloadable) |
| Microtronix | Linux Development Kit | All Altera NIOS-compatible devices | 16 Mbyte SDRAM and 8 Mbyte flash module (with pre-loaded kernel), Ethernet connectivity board, Operating system support board, containing CompactFlash interface, Integrated drive electronics (IDE) interface and real-time clock | µClinux and µClibc ported to the Nios embedded processor, full source code included, Cygwin support | NA | Accessory kit for Nios Development Kit, hardware daughtercards for use with Nios development board, reference hardware platform and software applications, 32-bit Nios CPU that interfaces to Linux Development Kit hardware, Medium-sized configuration of the µClinux kernel, Boa web server ported to the Nios embedded processor | $2,495 |

# Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Microtronix | Nios 2.0 SSRAM Debug Module | All Altera NIOS-compatible devices | Dual-bank SSRAM debugger card with serial interface, serial cable | Software support CD with Nios Core Build | NA | Accessory kit for Nios Development Kit, Chip debug functionality included with the Nios 2.0 embedded soft core processor, intended for use with either the TraceLink software provided by Altera or third party debugger solutions | $495 |
| Microtronix | LCD Touchscreen | All Altera NIOS-compatible devices | LCD/CRT interface card (CRT 640x480 or 800x600) uses PMC headers, Excalibur mounting kit | Embedded Linux software support (requires Nios Linux Development Kit), Nios core build with LCD/CRT support | NA | * QVGA passive 5.7" LCD touch screen with backlight, supports Microtronix Linux Kit | $1,495 |
| QuickLogic | Eclipse Reference Design Kit | QuickLogic Eclipse | 8-bit microcontroller, RS-232, stereo CODEC, ADC and DAC, LCD, power monitor, flash memory | Schematics, Gerber files, software, soft core eval license | RS-232 | NA | $1,595 |
| STMicroelectronics | DK900 | ST Flash PSDs and 8051 architecture | 8051 MCU, Flash PSD, FlashLINK JTAG programmer | PSDsoft Express and user manual | PC parallel port | Demonstrate in-system programming and in-application programming of flash memory | $99 |
| STMicroelectronics | DK900-HC11 | ST Flash PSDs and 68HC11 architecture | 68HC11 MCU, Flash PSD, FlashLINK JTAG programmer | PSDsoft Express and user manual | PC parallel port | Demonstrate in-system programming and in-application programming of flash memory | $119 |

**Table A--Evaluation boards and reference designs**

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|---|---|---|---|---|---|---|---|
| STMicroelectronics | DK4000-C167 | ST Flash PSDs and C167 architecture | C167 MCU, Flash PSD, FlashLINK JTAG programmer | PSDsoft Express and user manual | PC parallel port | Demonstrate in-system programming and in-application programming of flash memory | $149 |
| STMicroelectronics | DK4000-ST10 | ST Flash PSDs and ST10 architecture | ST10 MCU, Flash PSD, FlashLINK JTAG programmer | PSDsoft Express and user manual | PC parallel port | Demonstrate in-system programming and in-application programming of flash memory | $149 |
| STMicroelectronics | DK2190 | ST Flash PSDs and Analog Devices ADSP-219x DSP | ADSP-219x DSP, Flash PSD, FlashLINK JTAG programmer | PSDsoft Express and user manual | PC parallel port | Demonstrate in-system programming and in-application programming of flash memory | $99 |
| Triscend | E5 Evaluation Kit (THW-EVAL-520) | Triscend E5 (TE520S40) | 40 MHz embedded high-performance 8-bit 8051 microcontroller, 40Kx8 embedded SRAM, 128Kx8 program/configuration Flash, two 7-segment LED displays, DB25 parallel port connector, RS-232 driver, JTAG download/debugging port | Triscend FastChip 2.x Development System CD-ROM (full license), complete documentation, board schematics, Triscend Software Development Kit (SDK) CD-ROM, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM | Parallel port | Parallel port cable, AC power adapter | $298 |

**Table A--Evaluation boards and reference designs**

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|---|---|---|---|---|---|---|---|
| Triscend | E5 Development Kit (THW-KIT-520B) | Triscend E5 (TE520S40) | 40 MHz embedded high-performance 8-bit 8051 microcontroller, 40Kx8 embedded SRAM, 512Kx8 program/configuration Flash, 512Kx8 single-cycle SRAM, 2x16 character LCD display, two 7-segment LED displays, RS-232 drivers, 8-LED bar display, two DB9 serial port connectors, DB25 parallel port connector, three 96-pin expansion slots, JTAG download/debugging port | Triscend FastChip 2.x CD-ROM (full license), complete documentation, board schematics, Triscend Software Development Kit (SDK) CD-ROM, Keil µVision2 compiler/assembler/debugger for 8051 CD-ROM (evaluation version), OrCAD Capture Lite Edition CD-ROM | Parallel port, RS-232 serial port | Parallel port cable, AC power adapter, prototyping expansion card | $995 |
| Triscend | A7 Evaluation Board (THW-KIT-720) | Triscend A7 (TA7S20) | 60 MHz embedded ARM7TDMI 32-bit RISC CPU, 4Kx32 embedded SRAM, 2Mx8 program/configuration Flash, 32Mbytes SDRAM, two DB9 serial port connectors, 7-segment LED, JTAG download/debugging port | Triscend FastChip 2.x CD-ROM (full license), complete documentation, board schematics; Triscend Software Development Kit (SDK) CD-ROM including GNU GCC compiler and GDB debugger executables for Windows and Linux platforms, board support packages, RTOS support, hardware driver library; Wind River Systems Diab  C/C++ compiler/assembler CD-ROM (40-day evaluation version); Wind River visionPROBE II JTAG download/debug cable; Wind River Systems visionCLICK debugger (evaluation version); OrCAD Capture Lite Edition CD-ROM | Parallel port, RS-232 serial port | AC power adapter | $3,995 |

# Table A--Evaluation boards and reference designs

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|---|---|---|---|---|---|---|---|
| Triscend | Graphic LCD Development Kit | Triscend E5 (requires Triscend E5 Development Kit) | Interface connectors to popular passive LCD panels including 5.7-inch 320x240 Kyocera panels, 3.8-inch 240x320 Kyocera panels, Seiko Vitrium G4 panels, Seiko Vitrium G8 panels, Samsung 240x320 panels, and unversal panel interface.  Connects to 96-pin expansion slot on Triscend E5 Development Kit.  Adjustable panel bias voltage. | Royalty-free text and graphics display libraries.  Tutorial design. | NA | Requires Triscend E5 Development Kit | $198 |
| XESS | myCSoC Kit | Triscend E5 (TE505S16) | 40 MHz embedded high-performance 8-bit 8051 microcontroller, 16Kx8 embedded SRAM, 128Kx8 program/configuration Flash, 128Kx8 SRAM, 100 MHz programmable oscillator, DB25 parallel port connector, PS/2 serial port connector, VGA monitor connector, 7-segment LED, 84-pin prototype board interface | Triscend FastChip 1999 (free upgrade to FastChip 2.x), "myCSoC" tutorial CD-ROM with full documentation | Parallel port, PS/2 serial port | Parallel port cable, AC power adapter | $170 |
| Xilinx Inc | DV/1394 | Xilinx Spartan-II | Divio DV codec,  IEEE1394 Philips chipset, Philips 8051 microcontroller | Full user documentation, gerber files, schematics, FPGA programmed via 8051 microcode | IEEE1394 | Implements DV (Digital Video) transport over IEEE1394. Supports both encoding and decoding of DV | $1,500 |

**Table A--Evaluation boards and reference designs**

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|---|---|---|---|---|---|---|---|
| Xilinx Inc | DV/1394 | Xilinx Spartan-II | Divio DV codec, IEEE1394 Philips chipset, 8051 microcontroller | Full user documentation, gerber files, schematics, FPGA programmed via 8051 microcode | IEEE1394 | Implements DV (Digital Video) transport over IEEE1394. Supports DV decoding only | $1,500 |
| Xilinx Inc | USB2.0 to SCSI | Xilinx Spartan-IIE | Kawasaki LSI UTMI phy, USB2.0 function, 8051 | Full user documentation, gerber files, schematics, FPGA bitstream | USB 2.0 | Complete solution for USB2.0 to SCSI. FPGA implements USB2.0 function core and complete interface to SCSI using soft 8051 | $399 |
| Xilinx Inc | Bluetooth Cardbus | Xilinx Spartan-II | Broadcom Bluetooth radio and baseband chipset | Full user documentation, gerber files, schematics, FPGA bitstream | Cardbus | Low-cost bluetooth cardbus adapter. FPGA implements cardbus and interface to Broadcom's Bluetooth baseband controller. | $399 |
| Xilinx Inc | IEEE1355 8 port switch | Xilinx Spartan-IIE | Design completely implemented in a single low-cost FPGA | Full user documentation, gerber files, schematics, FPGA bitstream | RS232 | Implements IEEE1355 8 port switch capable of 4Gbps of bandwidth. Uses LVDS as physical layer and capable of transporting any protocol (IP/ATM/Disk Sector etc.) | $599 |
| Xilinx Inc | VoIP | Xilinx Spartan-II | Ethernet phy, voice codec | Full user documentation, gerber files, schematics, license for UDP core | Parallel port | Low-cost VoIP solution in a single FPGA. Implements UDP as hardware core in FPGA. | $995 |

# Table A--Evaluation boards and reference designs

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| Xilinx Inc | DV/1394 | Xilinx SpartanXL | Divio DV codec, IEEE1394 Philips chipset, 8051 microcontroller | Full user documentation, gerber files, schematics, FPGA programmed via 8051 microcode | IEEE1394 | Low-cost transport of DV over IEEE1394. Supports both DV encoding and DV decoding. Complete with interface to I2S and ITU 601 | $450 |
| Xilinx | Virtex-E Prototype board | Xilinx Virtex-E, PQ240, FG352, FG432, FG560 | Independent switched power supply jacks, Virtex configuration port for use with MuliLINX or JTAG programing | Schematics, Gerber files, user manual | Stand-alone | JTAG Programmer interface | $450 - $550 |
| Xilinx | Virtex-II Prototype board | Xilinx Virtex-II, FG256, FG456, FG676, FF1152 | Independent switched power supply jacks, Virtex configuration port for use with MuliLINX or JTAG programing | Schematics, Gerbber files, user manual | Stand-alone | JTAG programmer interface | $899 - $1299 |
| Xilinx | Virtex-II Pro Prototype board | Xilinx Virtex-II Pro, FF672, FF1152 | Independent switched power supply jacks, Virtex configuration port for use with MuliLINX or JTAG programing | Schematics, Gerber files, user manual | Stand-alone | JTAG programmer interface | $1495 - $1795 |
| Xilinx | Spartan-II | Xilinx Spartan, PQ208 | Independent switched power supply jacks, Virtex configuration port for use with MuliLINX or JTAG programing | Schematics, Gerber files, user manual | Stand-alone | JTAG programmer interface | $450 |
| Xilinx | Microblaze and Multimedia Demo Board | Xilinx Virtex-II XC2V1000 | Power supply, Parallel configuration cable | Reference designs, reference applications | Video in/out, Ethernet, RS-232, SVGA output | ZBT memory, SystemACE configuration | $3,900 |
| Xilinx | Virtex-II Pro Development/ Evaluation Platform | Xilinx Virtex-II Pro, 2VP7-FG456 | Power supply, parallel configuration cable, Wind River Systems debug connection | User manual, reference designs, CoreConnect license, schematics, Virtex-II Pro developer's kit, Virtex-II Pro user PowerPC handbook | TFT display, Ethernet, RS-232, DDR SDRAM, flash memory, high-speed serial interface | GNU development tools, Wind River Systems development tools, ChipScope Pro, SystemACE | $12000 - $14000 |

Notes: N/A=not applicable