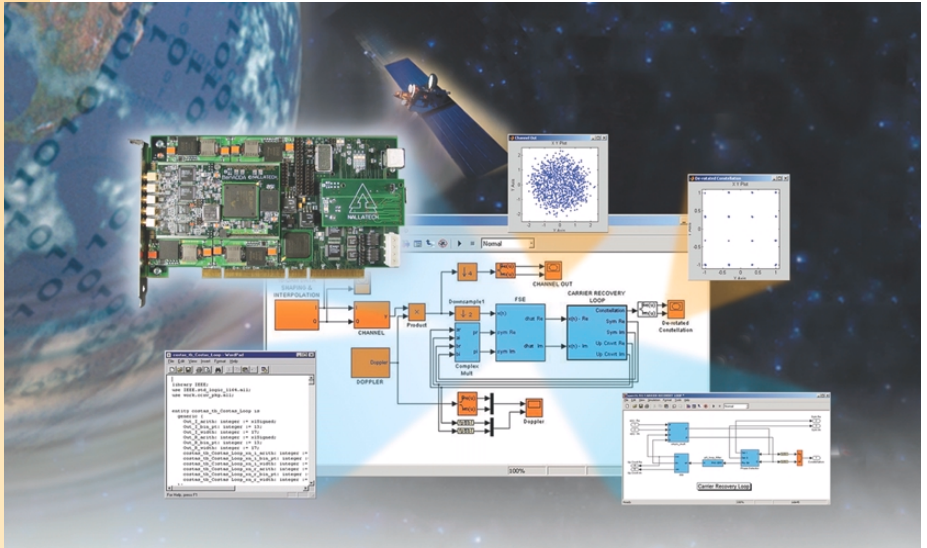




## Xilinx XtremeDSP Development Kit It's Everything You Need, Right Now...

Creating extremely high-performance DSP designs can be quite a challenge. To beat your competition to market, you need a fast platform FPGA on which to implement your design, you need the software tools and IP that make your job easier, and you need a pre-engineered high-performance hardware platform to quickly verify functionality and ensure your success.

The XtremeDSP Development Kit from Xilinx provides a complete development solution, so your designs will be fast, easy, and early to market. Now you can spend your time where it counts the most, developing the powerful DSP algorithms that make your design unique. This kit, including the most advanced DSP development tools, features dual-channel high-performance ADCs and DACs and is based on the popular Nallatech DIME-II architecture – the ideal development platform for developing Virtex-II series FPGA designs.



### Six Reasons Why You Need This Kit

You can rely on the XtremeDSP kit because Xilinx brings together everything you need to create DSP designs with exceptionally high performance. You get:

**High Performance** – The dual-channel high-performance ADCs and DACs, as well as the user-programmable Virtex-II FPGA, are ideal for implementing high-performance signal processing applications such as Software Defined Radio, 3G Wireless, networking, HDTV or video imaging.

**Scalability** – This modular system is based on Nallatech's latest DIME-II™ technology and is an ideal stepping stone if you want to scale-up later for more demanding application requirements. Nallatech offers unparalleled off-module I/O capabilities and flexible FPGA device support, coupled with extreme bandwidth capabilities for next generation systems design.

**Flexibility** – Communication and control of the XtremeDSP demo board is provided via a PCI interface for embedded environments, or via a USB interface for stand alone applications. The board also includes multiple clock drivers including an external clock, an on board oscillator, and a programmable clock.

**Ease of Use** – You get an easy-to-use and well-integrated design flow, from algorithm concept to hardware verification. The Xilinx System Generator for DSP, interfaces with MATLAB®/Simulink® and a large selection of intellectual property (IP) from Xilinx, so you can solve complex DSP design problems quickly. Plus, you get a single device edition of the Nallatech FUSE (Field Upgradeable Systems Environment) software. FUSE makes it easy to control and configure the on-board FPGA, and allows you to transfer data between the motherboard and a host PC.

**Time to Market Advantages** – You can quickly implement a complete system for applications such as digital communications and image processing. Thus, you can focus on your design without worrying about prototyping.

**Comprehensive Support** – DSP training classes using a similar demo board are available today. Plus, this kit is supported by the Xilinx Hotline, so you can get answers quickly.



## Your Path to Productivity

At the heart of the XtremeDSP board is a Xilinx 2V2000 Virtex™-II FPGA, which provides a powerful data processing and logic resource. This device contains over two million system gates, enough to handle the types of complicated algorithms used in leading-edge digital communications and imaging solutions today. The board also offers flexible, high-speed, high-resolution data conversion for both baseband and direct IF applications, including:

- Two Analog Devices AD9772A digital-to-analog converters, operating at up to 160 MSPS, directly controlled by the on-board FPGA, allowing maximum operating flexibility
- Two Analog Devices AD6644(5) analog-to-digital converters which interface directly to the on-board FPGA. The AD6644(5) is a high-speed, high-performance, monolithic 14-bit device operating at up to 65 MSPS
- A dedicated PCI and USB interface, used for interfacing between the PC system and the user application running on the Virtex-II FPGA. This is complemented with drivers, (Windows 95/98/NT/2000 and Linux) which offer a complete foundation for system development.
- A dedicated clock management FPGA (Virtex-II), along with the on board oscillator and external clock input. This device provides source selection and routing of programmable system clocks for low jitter.

## Board Specifications

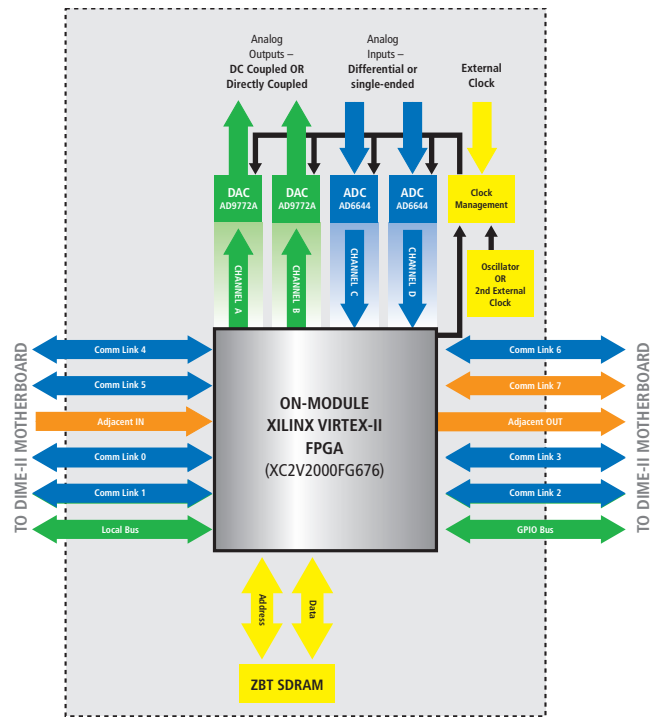
The XtremeDSP hardware platform:

- Supports one DIME-II slot for any DIME-II module.
- Host interfacing via 3.3V/5V PCI 32-bit/33-MHz or USB v1.0 interfaces.
- Daughter card module with:
  - 2 ADC channels: AD6644 ADC (14-bits up to 65 MSPS)
  - 2 DAC channels: AD9772A DAC (14-bits up to 160 MSPS)
  - Support for external clock, on board oscillator and programmable clock.
  - Virtex-II user FPGA: XC2V2000-4FG456
  - One bank of ZBT-SSRAM (133MHz, 256Kx16 bits)

## Kit Specifications

The XtremeDSP Development kit contains:

- Motherboard populated with a DIME-II module
- USB cable and power cable
- Nallatech FUSE Software
- Xilinx XtremeDSP Software Evaluation CD kit, containing:
  - 30 days evaluation for the Xilinx Foundation ISE
  - 90 days evaluation for the Xilinx System Generator for DSP
  - 30 days evaluation for MathWorks' MATLAB and Simulink
  - 30 days evaluation for Synplify Pro™ from Synplicity and FPGA Advantage™ from Mentor Graphics™
- User manual
- Example designs
- Cost: \$1,995



Dime II module functional diagram

## Applications

Some examples of applications for the XtremeDSP Demo board are:

- Mobile communications systems: 3G wireless, Software Defined Radio (SDR)
- Infrared imaging
- Wideband cable systems
- Multi-channel, multi-mode transceivers

## Get One Now

Go to our E-commerce website to purchase the board:

[www.xilinx.com/store](http://www.xilinx.com/store)

Visit our DSP website for the full details, data sheets, and application notes, at [www.xilinx.com/dsp](http://www.xilinx.com/dsp)

Find out more about the complete Nallatech product offering at [www.nallatech.com](http://www.nallatech.com)

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