

# TMS320C5502/C5509A eZdsp™ Development Tools



The C5502 and C5509A eZdsp development tools are compact and easy-to-use low-cost platforms featuring the low-power TMS320VC5502 and TMS320VC5509A Digital Signal Processors (DSPs) for quick evaluation and development of applications such as voice/audio, client communication radio, musical instruments and accessories, hands-free car kits, fingerprint biometric and low-complexity image/video. Similar to the C5515 eZdsp, the C5502/C5509A eZdps simplify development by providing on-board emulation and unrestricted Code Composer Studio™ (CCStudio) v4.x Integrated Development Environment (IDE) license in a USB-powered small form factor with a host of integrated features. With the freely downloadable software suite for the platforms, these low-cost C5502/09A eZdps are all that a user needs to start developing their application on the DSP.

## Key features and benefits:

- Affordable evaluation and development platform
  - Low-cost eZdsp tool
  - On-board emulation – saves cost of external JTAG emulator
  - Full-featured Code Composer Studio v4 IDE license – for complete application development
- Ease of use and faster time to market
  - Small form factor
  - USB-powered
  - Integrated peripherals and devices for quick system evaluation
  - Freely downloadable Chip Support Library, Image library and DSPLIB suite of optimized C-callable signal-processing kernels for code development in C high-level language
  - Included sample code, drivers and board support package
- Low-power 16-bit DSPs
  - TMS320VC5502 DSP with 300 MHz or 600 MMACS performance
  - TMS320VC5509A DSP with 200 MHz or 400 MMACS performance
  - Integration of a range of on-chip peripherals to address a number of application areas

## Technical details

The C5502/09A eZdsp development tools are low-cost, easy-to-use development platforms for higher-performance TMS320C5000 DSPs for audio and voice, fingerprint biometrics, communication radio, musical instruments and accessories, hands-free car kits, fingerprint biometric and low-complexity image/video processing markets. Integrated features on the eZdps include:

- TI AIC3204 audio codec with line in/out jacks
- 512-kB SPI Flash and 1-MB SDRAM
- I<sup>2</sup>C-interfaced 96 × 16 monochrome OLED screen, LEDs and push buttons
- Ethernet PHY and controller with evaluation version of IP stack
- Bluetooth®, ZigBee® and fingerprint sensor connectors
- USB 1.1 slave connector and microSD card slot on the C5509A eZdsp
- Expansion connector providing access to power, serial port and GPIOs
- On-board XDS100 v2 emulator for debugging, algorithm optimization and benchmarking
- Complete Code Composer Studio v4 IDE for fast code development
- Energy-efficient C5502/09A DSP allows the entire development tool to be powered

by the USB port for emulation – no cables or other components are needed to start working with the eZdps.

## Software

Designers can readily target the C5502/C5509A DSP through TI's robust and comprehensive CCStudio v4 IDE, based on the Eclipse open-source framework.

- CCStudio IDE offers an excellent framework for building software development environments, combining the advantages of the Eclipse software framework with advanced embedded debug capabilities and a compelling feature-rich development environment
- Compilers include source code editor, project build environment, debugger, profiler, simulators and more
- Single-user interface takes you through each step of the application development flow
- Support for DSP/BIOS™ real-time kernel



▲ C5502 eZdsp development tool

To get users quickly started with evaluating and developing their applications on these platforms, the eZdsp are supported with free sample code and board support package with source code. The TMS320VC5502 and TMS320VC5509A DSPs have freely available drivers, Chip Support Library and the Image Library and DSPLIB-optimized library of signal-processing functions with source code, a Telecom Library for voice and fax applications and audio and speech codecs for audio and voice applications for fast application development and prototyping.

## Community support

The C5502/09A eZdsp™ Development Tools are supported by TI's online community, [e2e.ti.com](http://e2e.ti.com). Special pricing incentives are available for educators, university students and developers that actively participate in the community. Complete schematics and layout files are available for the tool at: [support.spectrumdigital.com/](http://support.spectrumdigital.com/) so customers can use this as a reference for their own system development. The Chip Support Library, Image Library and DSPLIB along with all user guides and application notes be accessed from the DSP product folder at: [www.ti.com/c5502](http://www.ti.com/c5502) and [www.ti.com/c5509a](http://www.ti.com/c5509a).

## Get started today

The all-inclusive C5502 and C5509A eZdsp Development Tools (part numbers TMDX5502EZDSP and TMDX5509EZDSP respectively) will be available for order February 16, 2011, shipping in February and March for the low price of U. S. \$89 for the C5502 eZdsp and U.S. \$99 for the C5509A eZdsp. Pricing includes full XDS100 v2 emulator and the industry front runner, Code Composer Studio™ v4 IDE. To order, please visit [www.ti.com/ezdspc5502](http://www.ti.com/ezdspc5502) and [www.ti.com/ezdspc5509a](http://www.ti.com/ezdspc5509a).

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