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## Broadband Overview

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### Serving the Internet Age

For consumers and businesses around the world, the advantages of broadband are becoming more apparent everyday. High-speed, always-on Internet access, wirelessly networked home PCs and appliances, games/video, online travel and banking—all are compelling applications driving the rapid development of the broadband market. Businesses have seen productivity improvements of wireless LAN (WLAN), where employees have mobility without the need to go through the cumbersome, and time-consuming, logon procedures.

For equipment manufacturers and service providers, broadband technology represents tremendous potential for new revenue streams. To be successful, however, it is absolutely critical to choose the right technology partners.

Texas Instruments (TI) provides customers with the broadest portfolio of complete broadband solutions, as well as the widest variety of wireless and consumer electronics technologies integrated together with broadband to support the growth of new devices. TI's broadband solutions provide low power consumption, small footprint and system level integration. TI solutions interface with other wireless and consumer technologies required to rapidly deliver differentiated products to market. Here are some ways TI is making a difference to customers:

### TI's Broadband Product Portfolio

TI's broadband portfolio delivers the most advanced platforms for DSL, cable, WLAN and Voice over Internet Protocol (VoIP).

**DSL** – TI's advanced signal processing and software-based solutions ensure a robust, high-speed connection at both ends of the wire, enabling differentiated services for data, voice and video. Products include:

- Single-chip ADSL router solution.
- Complete ADSL home gateway reference designs that integrate WLAN, VoIP or both.

- High-density, low power, infrastructure solutions for digital loop carriers (DLCs).
- DSL access multiplexers (DSLAMs) and access concentrators.

**Cable** – TI is the only supplier with a complete hardware and software cable modem solution, enabling fast time to market with a proven solution. TI's advantages for cable designers include:

- TI was the first supplier to deliver DOCSIS 1.1, PacketCable™ 1.0 for voice-enabled cable modems and EuroDOCSIS™ certified silicon and software, and TI was among the first to deliver a DOCSIS 2.0 certified solution.
- Enhanced digital services such as VoIP over cable.
- Dedicated design and manufacturing support.

**VoIP** – Operating expense savings and new application opportunities have made VoIP one of the most promising broadband technologies. TI advantages for VoIP designers include:

- The broadest range of complete VoIP solutions with the highest quality voice; TI's VoIP solutions cover residential/SOHO, enterprise and carrier class applications.
- Industry-leading, field-proven software and silicon solutions for rapid time-to-market.
- Optimized density, power and cost; reduced BOM based on integration.

**WLAN** – In a business or home environment, WLAN enables users to stay connected to the network no matter where they are. TI WLAN allows users to conveniently access the Internet with speed and dependability. TI offers a variety of solutions, such as:

- Multimode 802.11a/b/g devices to provide consumers access to any WLAN connection with seamless interoperability between standards.
- Integrated broadband devices that require 802.11 connectivity with DSL, cable modem or VoIP on one device.
- Low-power 802.11 connectivity for laptops, PDAs, smart phones and other portable battery-powered devices.

**Enabling Convergence** – As the broadband market matures, products that integrate broadband access and networking solutions with wireless and consumer electronics technologies are becoming the next wave. TI's support of all broadband platforms, wireless technologies and the leading consumer electronics platforms allows manufacturers to quickly and easily develop these innovative products.

These products enable new applications for end customers and service providers, and offer churn reduction and new service revenue for service providers.

**Interoperability** – Ensuring interoperability is vital for speeding customers' time-to-market with certified products that meet industry requirements. TI's broadband products are designed from the beginning with industry standards and interoperability as primary considerations.

TI is heavily involved in industry activities to set the standards and draft the specifications that support these standards. As part of TI's major broadband initiative, the interoperability testing is another key way TI is working to ensure the success of its customers, and its customers' customers, as well as the market.

**Support** – TI's involvement in standards committees and global design teams guarantees its customers reduced time-to-market and lower costs to quickly deploy innovative products. Design teams around the world provide training and support throughout the entire development process, giving TI customers a quick start in developing products.

### **Making Broadband a Reality**

Every day, more and more broadband system developers turn to TI. With solutions spanning the broadband spectrum, unparalleled integration capabilities, dedicated interoperability testing and unflagging support for the broadband industry, TI is a leader in making broadband a widespread reality.

To learn more about TI's broadband product portfolio and services, visit us at: [www.ti.com/broadband](http://www.ti.com/broadband)

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