Fact Sheet

AR7 Family of Single-Chip ADSL Solutions

The new AR7 Asymmetric Digital Subscriber Line (ADSL) solution provides unparalleled home networking performance in a single-chip design for all regions worldwide. The AR7 provides manufacturers with the flexibility, scalability and performance required to address the need for efficient distribution of ADSL services throughout home and small office networks.

AR7 Chipset Features

- ADSL PHY subsystem based on TI C62x DSP, with integrated transceiver, codec, line driver and line receiver
- High performance MIPS 32-Bit RISC processor
- IEEE 802.3 PHY
- Two IEEE 802.3 MACs with Media Independent Interface (MII) and Quality of Service (QoS)
- USB 1.1 compliant transceiver
- Hardware accelerated ATM SAR
- Two VLYNQ™ interfaces for compatible high-speed expansion devices
- EJTAG, GIPO, UART, and FSER interfaces
- 324 BGA with 1.0-mm ball pitch
- Multiple reference designs for various applications

The Key to Home and Office Networking

Providing both data and voice, IADs and RGs offer the key link between today's independent communications services and tomorrow's converged services. The AR7 chipset family offers a compact, easy-to-design solution that reduces development costs and shrinks time-to-market, yet provides the versatility to add a wide variety of features for different products.

- TI's TurboDSL™ Packet Accelerator boosts multi-user network performance with faster acknowledgements between the router and client. TurboDSL provides 3X higher packet throughput, giving consumers a fast multi-user networking environment.
- The AR7 integrates technology that monitors distortion created by bridge taps and can then adapt by matching the central office's (CO's) transmit response, resulting in a better data rate and greater distance.
- The AR7 provides 10% improved carrier service area coverage by using Dynamic Adaptive Equalization to achieve the most out of every tone under any condition.

Networking versatility is offered by a variety of interfaces that provide connections to wired and wireless Ethernet bridging and routing, USB, MII and TI VLYNQ devices. TI's VLYNQ™ interface provides a seamless, high-speed interface to other TI devices, allowing for functions such as multi-port Ethernet switching, 802.11b bridging, voice applications, and VPN and IPSEC support. With a wide range of interface possibilities, the AR7 can provide for the media and applications needs of a home and small office.

Extending TI's Technology

The new family of AR7 products expands TI's widely used ADSL portfolio with advanced solutions targeted at the rapidly growing market for home and office DSL networking. The chipsets combine TI's leadership DSP and analog technology with premier networking software and systems expertise.

The AR7 family supports all ADSL standards including:

- G.992.1 (G.dmt) Annexes A, B, C, I, J
- G.992.2 (G.lite)
- ANSI T1.413 (i2)
- ADSL2
- ADSL2+
- Extended-Reach ADSL
- All Digital Loop ADSL

Software Platforms

Included with the chipset is a software package based on TI and Telogy Software™ industry-leading solutions. Three different configurations support everything from a basic ADSL router to a full featured gateway router. The AR7 includes a Network Support

Package (NSP) that runs on Linux® and VxWorks® operating systems and provides all the router software including gateway, security and remote management features. The flexibility and ease of use provided by these industry-standard OS interfaces help make applications more portable, allowing developers to quickly address different market segments and manufacturer preferences. In addition, a Platform Support Package (PSP) is included which has the management Application Programming Interfaces (APIs), DSL and SAR drivers as well as documentation.

For additional information about the AR7 chipset, visit: www.ti.com/AR7overview

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