AMD Athlon™ II X2 Dual-Core Processor

High performance and true multi-tasking capability with AMD64 technology

NAME
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SOUNDBITE
Do more in less time with amazing multi-core performance at a great price.

FEATURES
> True Multi-Core Processing
> AMD Dedicated Multi-Cache
> AMD Virtualization™ (AMD-V™)Technology
> AMD PowerNow!™ 3.0 Technology
> HyperTransport™ 3.0 Technology
> Simultaneous 32-bit and 64-bit Computing

AMD
The future is fusion

End User Benefits

- **EXCEPTIONAL PERFORMANCE**
  - Take advantage of true multi-core performance and true multitasking capability
  - Get a PC experience optimized to deliver the benefits of the Microsoft® Windows® 7 operating system
  - Convert music, HD video, and other media fast [1,2]
  - Manage all your home media files and run the software you need to create, share, and enjoy your media [1,2]

- **EFFICIENCEY**
  - Take advantage of energy efficiency you'll feel good about for a green, cool, and quiet PC experience
  - Save energy, get the most out of your budget, and help reduce heat and noise to reduce the environmental impact of your PC
  - Enjoy performance on demand when you need it and power savings when you don't using next-generation AMD desktop power management technologies
  - Get improvements over previous-generation AMD Athlon™ II processors: slash your power consumption by up to 50% when doing basic tasks, 40% when running heavy load, and 50% when idle [3]
  - Conserve with Energy Star® 5.0-compliant, idle-power improvements such as low core voltages and enhanced cache power management

Product Features

- **True Multi-Core Processing** - The extensive AMD64 architectural optimizations and features enable thorough integration of multiple cores within the same processor, with each core having its own L1 and L2 caches.

- **AMD Dedicated Multi-Cache** - Each core has its own dedicated L2 cache, which enables simultaneous independent core access to L2 cache, eliminating the need for cores to arbitrate for cache access. This helps reduce latency on L2 cache accesses.

- **AMD Virtualization™ (AMD-V™)Technology** - Silicon feature-set enhancements designed to improve the performance, reliability, and security of both existing and future virtualization environments.

- **AMD PowerNow! 3.0 Technology** - The latest power management technologies that deliver performance on demand when you need it, and power savings when you don't.

- **HyperTransport™ 3.0 Technology -** Third-generation HyperTransport™ interface improves performance, supporting transfer speeds up to 4.4GT/s.

- **Simultaneous 32-bit and 64-bit Computing** - AMD64 technology enables a breakthrough approach to 64-bit computing that doubles the number of registers in the processor and allows PC users to use today's 32-bit software applications while enabling them to also use the next generation of 64-bit applications.

1 Additional hardware or software may be required.
2 Recording of content may be subject to digital rights management (DRM) restrictions.
3 Based on comparison of 65nm AMD Phenom™ X4 9950 125W to 45nm AMD Phenom™ II X4 940 125W. System Configuration: AMD internal reference motherboard (Shiner); CHIPSET: RS780 / SB700
Chipset; BIOS: MS9A04-4; MEMORY: DDR2-800 2X1024MB; O/S: Windows® Vista® SP-1; Other: C1E enabled, L3PwrSavEn enabled.

AMD Athlon™ II X2 Dual-Core Processor Product Specifications

Cache Size	L1 Cache: 64K of L1 instruction and 64K of L1 data cache per core (256KB total L1 per processor) L2 Cache: 1MB of L2 data cache per core (2MB total L2 per processor)
Process Technology	45-nanometer SOI (silicon-on-insulator) technology
HyperTransport™ technology links	One 16-bit/16-bit link @ up to 4.0GHz full duplex (2.0GHz x2)
Total Processor-to-System Bandwidth	Up to 33.1GB/s bandwidth [Up to 17.1 GB/s total bandwidth (DDR3-1066) + 16.0GB/s (HT3)] Up to 28.8GB/s bandwidth [Up to 12.8 GB/s total bandwidth (DDR2-800) + 16.0GB/s (HT3)]
Types of Memory	Support for unregistered DIMMs up to PC2-6400 (DDR2-800MHz) -AND- PC3-8500 (DDR3-1066MHz)
Die Size	117.5 mm2
Packaging	Socket AM3 938-pin organic micro pin grid array (micro-PGA)

AMD Athlon™ II X2 Dual-Core Processor Product Model

MODEL NUMBER	CLOCK FREQUENCY	SYSTEM BUS	PACKAGE PROFILE	CMOS TECH	L2 CACHE	TDP	VOLTAGE	MAX TEMP
250	3.0GHz	4.0 GT/s	socket AM3	45nm SOI	2MB	65W	0.85-1.425V	74'C