efficēon PROCESSOR

Transmeta CORPORATION

Product Sheet

Transmeta™ Efficeon™ TM8600 System Development Kit

Efficient Computing Reference Platform

Product Overview

The Transmeta Efficeon TM8600 System Development Kit is a reference platform using the latest innovations in efficient computing for the evaluation and prototyping of hardware designs. To ensure a high-performance competitive architecture, Transmeta has partnered with NVIDIA to offer its nForce3 Pro 250 Gb Southbridge technology for a compelling platform featuring many cutting-edge technologies required for modern computing designs such as Serial ATA, Gigabit Ethernet and AGP 8X. This makes the Transmeta Efficeon TM8600 System Development Kit ideal for the development of notebooks, Tablet PCs, silent PCs, embedded servers, blade servers, SOHO servers, set top boxes, and other consumer and enterprise devices.

The System Development Kit features the Transmeta Efficeon processor; a microprocessor characterized by low power consumption, reduced heat dissipation and the performance required to run the latest x86 compatible applications and operating systems. It is further enhanced by full support for SSE and SSE2 multimedia extensions, enabling multimedia applications to run up to 80% faster per clock cycle than previous generation processors from Transmeta.

Development Kit Specifications

Processors Supported	Transmeta Efficeon TM8600 processor
Chipset	Northbridge: Integrated into Efficeon processor Southbridge: NVIDIA® nForce3™ Pro 250 Gb
BIOS	Phoenix Technologies™ BIOS supporting ACPI, DMI and PnP
System Memory	2 x DDR SO-DIMM sockets Up to 4GB of total memory
On-board IDE	2 x ATA-133 interfaces supporting up to 4 devices
On-board Serial ATA	2 x Serial ATA interfaces supporting up to 4 devices
On-board Audio	NS LM4549 AC'97 compliant Codec Audio line-in, line-out and microphone connectors
On-board Ethernet	NVIDIA nForce3 Pro 250 Gb built-in Gigabit Ethernet controller
Expansion Slots	1 x AGP 8X slot 2 x PCI slots
USB	2 x USB 2.0 ports On-board headers for 2 additional USB ports
I/O Features	1 x Serial port (RS232) 1 x Parallel port (DB25 IEEE1283)
Keyboard / Mouse	1 x PS/2 Mouse connector 1 x PS/2 Keyboard connector
Form Factor	FlexATX form factor motherboard 9.0-inch x 7.5-inch (228mm x 190mm)
Power Supply Input	19V/5A AC-DC adaptor, or 12.6V_max battery pack

Unlike traditional microprocessor architectures, the Efficeon processor has full integrated Northbridge functionality — including an integrated DDR-DRAM memory controller, AGP controller, LPC interface and a high-speed HyperTransport™ interface. This level of integration completely removes the need for an external Northbridge chip, reducing board space, lowering power and enhancing performance, and easing system design.

High Performance 256-Bit VLIW Engine

To maximize performance and responsiveness, the Efficeon processor features a state-of-the-art 256-bit-wide VLIW (Very Long Instruction Word) engine that can issue up to 8 instructions per clock cycle. A large 1MB L2 cache and support for SSE & SSE2 instructions help make for a compelling multimedia experience. The Efficeon processor is a unique hardware/software design. The hardware engine processes instructions like a conventional processor, but runs a custom, efficient instruction set. Transmeta's proprietary Code Morphing™ Software (CMS) is the software component of the Efficeon processor. CMS dynamically optimizes and translates x86 instructions into VLIW native code that the VLIW hardware engine can process. This unique combination of hardware and software allows the processor to be more streamlined and adds intelligence to the Efficeon processor not found in other x86 microprocessors.

System Development Kit Contents

The Transmeta Efficeon TM8600 System Development Kit comes with a full complement of accessories including:

- IDE and floppy drive cables
- CD-ROM driver inverter and power cable adapter
- USB connector brackets and cables
- COM connector brackets and cables
- Laptop or chassis mounted power supply
- Manual (printed or CD-ROM) with schematics and bill of materials

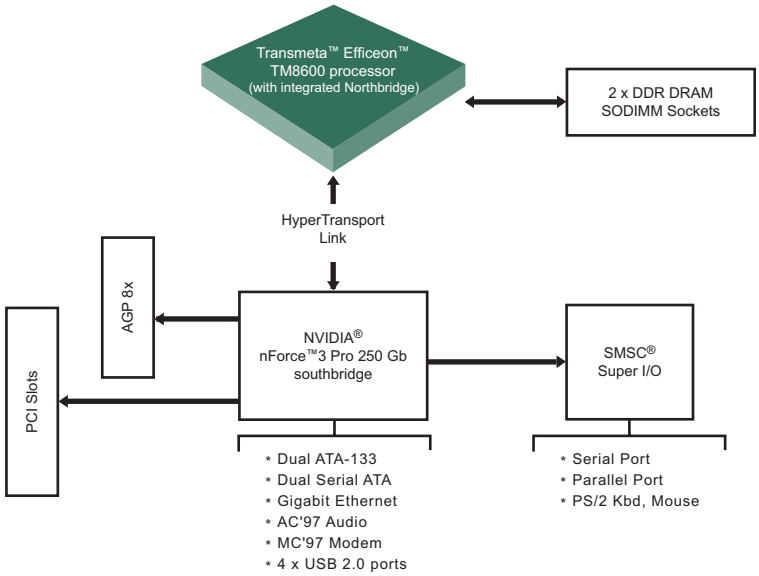
A CD-ROM containing:

- User's Guide
- Device drivers
- Reference design files and Efficeon™ processor specification and design guide documents
- BIOS and microcode upgrade tools

LongRun™ Power Management

LongRun power management technology provides Code Morphing software with the ability to adjust the Efficeon processor core operating voltage and clock frequency dynamically, depending on the demands placed on the processor by software. Because power varies linearly with clock speed and by the square of voltage, adjusting both processor voltage and clock frequency can produce cubic reductions in power consumption, whereas conventional processors can adjust power linearly only by adjusting the effective operating frequency.

The Long Run power management policies are implemented within Code Morphing software, and can detect different workload scenarios based on runtime performance information, and then exploit these by adapting processor power usage accordingly. This ensures the processor delivers high performance when necessary and conserves power when demand on the processor is low. All power adjustments are transparent to the operating system, power management controller, and the user.



For more information, visit **www.transmeta.com**

Transmeta Efficeon TM8600 Development Kit
part number: 800950

efficēon™ PROCESSOR

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QUALITY MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO 9001:2000

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