



Texas Instruments OMAP35x™ processors inspire new inventive applications with unprecedented combination of high performance at handheld power levels

TI is first to ship the high-performance ARM® Cortex™-A8 core, offering a 4x performance improvement over ARM9 family cores

DALLAS (February 26, 2008) - Consumers are demanding products with more intuitive user interfaces, advanced graphics and the ability to connect any and all devices to the Internet. To empower designers to address these needs, Texas Instruments Incorporated (TI) (NYSE: TXN) announced at the TI Developer Conference (TIDC) (www.ti.com/tidc08multimedia) the availability of four new OMAP™ processors, based on the market's first broad offering of the ARM® Cortex™-A8 core, providing an unprecedented combination of laptop-like performance at handheld power levels in a single chip. With more than four times the processing power of today's 300 MHz ARM9 devices, the superscalar Cortex-A8 core runs up to 600 MHz and is integrated into four new OMAP35x™ applications processors for a wide range of possible applications, including portable navigation devices, Internet appliances and portable patient monitoring devices. For more details, see ti.com/omap3503pr.

The new OMAP35x devices extend TI's proven, leading wireless handset technology to mainstream customers reaching new markets, such as automotive, consumer, embedded and medical. The integrated, single-chip devices combine photo-realistic graphics and TI's advanced video DSP technology, to offer the industry's best combination of integrated multi-core processing capabilities in any single-chip combination. These breakthrough applications processors are the most advanced processors of their kind available to the broad market, and they will allow original equipment manufacturers to redefine the standard for advanced user interfaces, web browsing, productivity and multimedia experience.

"For years we've talked about the day when we would interact more seamlessly with our electronic devices. We are finally at a point where photo-realistic graphics, constant Internet access and multimedia capabilities run on all of our applications without concern about dead batteries," Mike Hames, senior vice president, Applications Specific Products, TI, told a gathering of customers during the TIDC keynote. "By offering OMAP35x applications processors to the market, our customers will have the tools to drive these technology concepts to reality."

Best general purpose, multimedia and graphics in any combination

TI's OMAP35x generation of devices consists of four distinct single-chip processors: OMAP3503, OMAP3515, OMAP3525 and OMAP3530. These processors offer a variety of combinations of the Cortex-A8 core, multimedia-rich peripherals, OpenGL® ES 2.0 compatible graphics engine, video accelerators and TMS320C64x+™ DSP core. TI's DaVinci™ software technology for video-centric customers will be available for the highest-performance video in the OMAP35x devices, including the OMAP3525 and OMAP3530. Development with the new OMAP35x devices will be supported by the TI Developer Network, which encompasses an ecosystem of more than 400 companies with expertise reaching from operating system implementation to application user interfaces. The applications processors also support 12MP still image capture and are pin-for-pin compatible to make it easy for OEMs to efficiently create a complete product portfolio based on the single platform. Software developed on previous generations of ARM devices and the C64x+ DSP are also compatible with the cores on the OMAP35x devices.

OMAP3503: Superscalar applications processor

Now sampling, the OMAP3503 has a 600 MHz Cortex-A8 core with integrated peripherals. The Cortex-A8 achieves a 2x performance lift over the 300MHz ARM9 by doubling the clock speed. It also achieves an additional 2x performance improvement through its superscalar architecture, which allows it to implement instruction-level parallelism within a single processor to enable a faster CPU throughput than would otherwise be possible at the same clock rate. With the resulting 4x improvement, the Cortex-A8 achieves more than 1200 Dhrystone millions of instructions per second (MIPS) and can run full-featured operating systems, such as Windows® Embedded CE and Linux. It will enable users to gain faster access to databases, spreadsheets, presentations, e-mail, audio and video attachments, web browsing and videoconferencing applications. The device also supports faster boot times and compelling Java applications, which is appropriate for embedded processor boards.

OMAP3515: Integrated gaming-quality graphics

The OMAP3515 processor consists of the same peripheral set and ARM core as the OMAP3503, plus the first broadly available, integrated OpenGL ES 2.0 graphics engine. Based on Imagination's PowerVR SGX graphics accelerator, the OMAP3515 can achieve photo-realistic graphics which can dramatically enhance the smart device user interface and make it the choice processor for embedded gaming or simple portable navigation systems.

OMAP3525: Multimedia processing for embedded applications

The OMAP3525 takes the base features found in the OMAP3503 and addresses the need for high-definition video, imaging, audio and multimedia acceleration capabilities. With an integrated C64x+ DSP combined with hardwired video and imaging processing as well as dedicated video centric peripherals, the OMAP3525 can decode high-definition video (MPEG-4 SP, 720p at 30 frames per second) and it is appropriate for portable media players.

OMAP3530: Single-chip solution for multimedia smart devices

The superset device, OMAP3530, brings together the integrated ARM, DSP, graphics engine and peripheral set into a single chip to enable performance-hungry, power-efficient productivity and entertainment applications. Suitable for a wide range of potential applications, including Internet appliances and portable patient monitoring devices, the OMAP3530 offers integration in a power-optimized design, which means that applications can take on new and exciting forms that are thinner, sleeker and lighter. Likewise new user interfaces and graphics can be more easily integrated into existing commercial or consumer product designs.

"When combined with the Windows Embedded CE 6.0R2 operating system, the OMAP35x processors allow developers of smart, connected commercial and consumer devices to deliver products at a lower cost and shorter timeframe," said Mukund Ghangurde, Group Product Manager, Windows Embedded Business, Microsoft Corp.

To make this level of performance even more appealing for embedded applications, OMAP35x processors provide the ability to run these applications in extremely power constrained environments. To achieve this power level, the OMAP35x devices integrated three aspects of technology. The device architecture leverages a multi-core design, so that each core is fully optimized for the tasks it is responsible for to maximize efficiencies. It is manufactured at 65 nanometer low-power process technology. And finally, it leverages TI's SmartReflex™ technology which dynamically controls voltage, frequency and power based on device activity, modes of operation, process technology and temperature variation.

"As a leading provider of ARM technology-based devices, TI has the expertise and support network to help OEMs successfully design and bring products to market quickly and efficiently," said Graham Budd, executive vice president and general manager, Processor Division, ARM. "The Cortex-A8 high-performance, power-efficient processor with NEON technology and vectorizing compiler support in RealView® Development Suite 3.1 Professional is an ideal driver for leading edge applications. With the launch of the OMAP35x processors, TI is making our Cortex-A8 processor technology available to a broad base of developers for the first time, enabling them to address the needs of wide range of consumer, industrial and medical applications."

Complete hardware, software and tools solution

The modular and extensible OMAP35x Evaluation Module (EVM) provides all the components needed to develop on the OMAP3503. It includes a complementary, integrated power management and analog solution specifically for OMAP35x devices as well as the flexibility to incorporate application-specific daughter cards and support Linux and Windows Embedded CE developers. OMAP35x EVM offers OMAP3503 Linux board support package based on the 2.6.22 kernel, in addition to peripheral drivers, U-boot for boot loading and a Busybox based root file system. A Windows CE 6.0R2 BSP will also be available for developers. Designers can order the OMAP35x EVM today for \$1495.

Pricing and availability

The OMAP3503 (\$25.95 each in 100u) is available in two packages. The OMAP3503 in 0.4mm pitch can be ordered today and will ship within four weeks. The 0.65mm pitch version of the OMAP3503 will be available in 2Q08. The other three devices (OMAP3515, OMAP3525 and OMAP3530) will be available with complete development tools in the second half of 2008. For more information, technical documentation and videos and to order EVMs, please visit www.ti.com/omap3503pr.