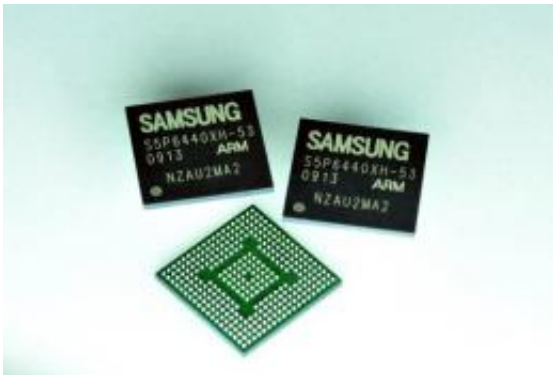


# Samsung Introduces New 45nm Application Processor

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Samsung Electronics announced today the latest in its popular, ARM11 series of application processors, the S5P6440. Designed using Samsung's advanced 45nm low power CMOS process technology, the S5P6440 offers a low power, high performance, and cost effective solution for consumer electronic products such as personal navigation devices.

"Today's ultra-competitive consumer electronics market demands rapid performance upgrades and effective cost reduction to continue its expansion," said Dr. Kwang-hyun Kim, Senior VP of Sales and Marketing at Samsung Electronics' System LSI division. "Our S5P6440 application processor is specifically designed with those objectives in mind to offer substantial improvements in CPU performance at low power, high quality graphics capability, and lower system BOM cost. CE

device manufacturers using S5P6440 can offer exciting new products such as next generation PND to the market in a timely manner."

Samsung's S5P6440 is based on an ARM1176 CPU core which runs at either 533 MHz or 667MHz clock speed. The CPU core and all on-chip hardware accelerators and peripheral interfaces are connected through a 64-bit AXI bus running at 166MHz, allowing ample input/output bandwidth for handling the multiprocessing requirements in real-life applications.

The S5P6440 features 2D graphics acceleration hardware that is compliant with the OpenVG application programming interface (API) standard. The OpenVG API standard enables advanced graphics functions such as alpha blending for transparency effects, anti-aliasing for sharper graphics, and vector graphics support for scaling without loss of image quality. Utilizing this graphical capability, devices implemented with the S5P6440 can offer a vivid graphical user interface that greatly enhances the user experience.

To lower the system BOM cost and ease the design complexity, the S5P6440 incorporated various interface hardware IP. An advanced NAND error correction hardware is included to support current and next generation MLC NAND flash devices which offer higher storage density at a lower cost. The S5P6440 also integrated a DRAM memory controller that supports both mobile DDR (mDDR) as well as the lower cost DDR2 memory chips, allowing device manufacturer's different choices of storage device types to meet different market segments' requirements.

In addition, the S5P6440 integrated a mobile industry processor interface (MIPI) display serial interface (DSI) for advanced graphics and display capabilities at low power. The MIPI DSI interface is valuable to customers wanting to reduce the complexity of the display interface by

reducing the number of pins, which has benefits in terms of design simplicity and cost. MIPI DSI also uses a differential signal which substantially reduces EMI issues. These advantages are increasingly important for mainstream connected CE products where noise interference among electronic components in within a product can adversely affect the product's performance.

Samsung's new S5P6440 application processor supports all major high-level operation systems including WinCE and Linux. This allows OEMs and PND manufacturers to differentiate their products through a rich, easy-to-use, customizable user interface, as well as robust, flexible application architecture.

The S5P6440 application processor is sampling to key customers now and is scheduled for volume shipment in the third quarter of this year. The chip is housed in a 13x13 FBGA package with a ball pitch of 0.65mm.

Source: Samsung

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