

## **Multicore DSPs pack Performance and Low Power in Small Form Factor**

Delivering the industry's most power efficient solutions without compromising performance or ease of use, Texas Instruments Incorporated (TI) (NASDAQ: TXN) today unveiled three new devices based on its KeyStone multicore architecture utilizing the TMS320C66x digital signal processors (DSP) generation. TI's new TMS320C665x DSPs feature combined fixed- and floating-point capabilities, delivering real-time high performance at low power coupled with smaller form factors. With TI's new TMS320C6654, TMS320C6655 and TMS320C6657 multicore DSPs, developers can more effectively meet vital requirements of high performance and portable applications in markets such as mission critical, industrial automation, testers, embedded vision, imaging, video surveillance, medical, audio and video infrastructure.

"TI's new C665x DSPs offer a very compelling mix of low power and high performance, particularly for medical imaging products, which require these types of features," said Xin Li, Technical Manager of Imaging Products Research, Mindray Medical International Limited. "These solutions offer exciting possibilities for our products, supporting our goal of improving patient care around the world."

Based on the KeyStone multicore architecture, TI's new C665x processors offer developers access to devices that are high performance while still being power and space efficient. The low power consumption and small form factor of 21mm x 21mm enable portability, mobility and low power energy sources such as battery and interface powering to drive breakthrough products. The unique strengths of these C665x DSPs meet the need of applications such as video security and traffic management, where there is a need to carry out both video processing and analytics at the end point. In addition, a wide range of high performance real-time applications such as on-board radar, software defined radios, video and image processing and portable ultrasound will now be smaller, lighter and easier to use.

"Through the combination of performance, low power and fixed- and floating-point capabilities, we are better equipped to meet the industry's requirements," said Weidong Chen, CEO, Suzhou Keda Technology Co., Ltd, a leading video and surveillance product and solution supplier in China. "This combination offers vital design flexibility and time-to-market advantage without adding significant development cost. We look forward to working with TI to deliver low power and cost effective high performance solutions to our customers."

Starting just under \$30 at 10 KU, TI's C665x processors consist of three fully pin compatible low-cost, power optimized solutions for developers migrating from single core to multicore. The C6657 features two 1.25-GHz DSP cores, delivering up to 80 GMACs and 40 GFLOPs, while the C6655 and C6654 single core solutions deliver up to 40 GMACs and 20 GLOPS and 27.2 GMACs and 13.6 GLOPS, respectively. Under normal operating conditions, the C6657, C6655 and C6654 power numbers are at

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3.5W, 2.5W and 2W, respectively. TI's C665x DSPs also feature large on-chip memory coupled with a high bandwidth and efficient external memory controller, making them an ideal choice for developers of mission critical, test and automation, imaging, medical and audio and video infrastructure applications where low latency is critical.

"This latest addition to TI's KeyStone platform delivers a very compelling solution that combines low power and high performance signal processing in a very compact package," said Will Strauss, president and principal analyst of Forward Concepts. "This is a powerful combination that will enable portability with long battery life or line power in advanced imaging, sensing and analytics based applications, where attributes like these are key. It's good to see TI continuing to innovate in the high performance arena."

TI offers easy-to-use, low cost evaluation modules (EVMs) so developers can quickly get started designing with the C6654, C6655 and C6657. The TMDSEVM6657 sells for \$349 and the TMDSEVM6657LE sells for \$549. Both EVMs include a free Multicore Software Development Kit (MCSDK), TI's powerful Code Composer Studio™ (CCS) integrated development environment (IDE), and suite of application/demo codes to allow programmers to quickly come up to speed on the new platform. In addition, TI's TMDSEVM6657L includes an embedded XDS100 emulator while the TMDSEVM6657LE includes a faster emulator, the XDS560V2, for quicker program load and ease of use.

In addition, C665x DSPs are code compatible with TI's TMS320C64x generation and all of TI's KeyStone-based multicore processors, ensuring previous investments made on TI DSPs can be easily reused. This flexibility allows developers the ability to easily design a wide portfolio of high performance products, scaling from low to high end applications.

### Texas Instruments

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