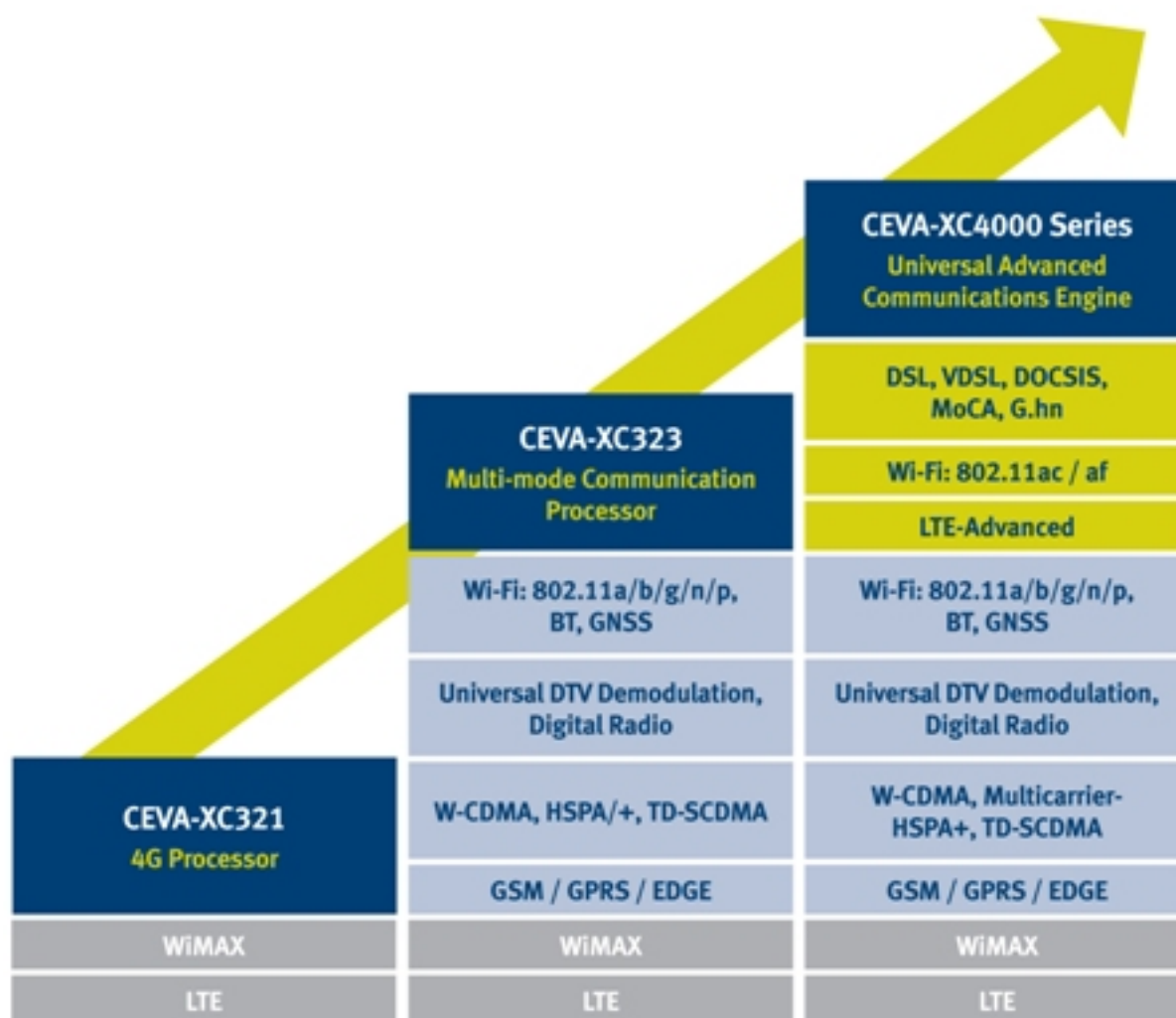


CEVA-XC4000 - A Low-Power DSP Architecture Framework for the Widest Array of Advanced Wireless Standards

CEVA unveiled the CEVA-XC4000, a fully programmable low-power DSP architecture framework supporting the most demanding communication standards for cellular, Wi-Fi, DTV, white space, and more. Building upon its highly successful predecessors, the CEVA-XC4000 architecture sets a new milestone for power efficiency and utilizes an innovative instruction set to enable highly complex, software-based baseband processing which otherwise could only be accomplished with dedicated hardware. Illustrating this, the CEVA-XC4000 delivers a 5X performance improvement over the CEVA-XC323 DSP for LTE-A processing, while consuming 50% less power.



The CEVA-XC4000 architecture is offered in a series of six fully programmable DSP cores, offering modem developers a wide spectrum of performance capabilities while complying with the most stringent power constraints. By taking advantage of

a unified development infrastructure composed of code-compatible cores, a set of optimized software libraries and a single tool chain, customers can significantly reduce software development costs while leveraging their software investment in future products.

“The CEVA-XC4000 redefines the concept of a ‘universal communication architecture’, enabling every conceivable advanced cellular, connectivity, DTV, white space and powerline communication standard to be efficiently supported by a single DSP architecture,” said Gideon Wertheizer, CEO of CEVA. “Incorporating new power management techniques, we were able to dramatically reduce the power consumption for high-performance software-based processing, paving the way for modem developers to exploit the flexibility, reusability and time-to-market advantages that a software-defined approach brings.”

Power, Performance, Precision, System Know-how

Addressing the ever-increasing requirement for higher performance together with lower power consumption, the CEVA-XC4000 architecture incorporates new and innovative power-oriented enhancements, including CEVA’s second generation Power Scaling Unit (PSU 2.0) which dynamically supports clock and voltage scaling with fine granularity within the processor, memories, buses and system resources. The architecture also utilizes Tightly Coupled Extensions (TCE) to deliver inter-connected power-optimized coprocessors and interfaces for the implementation of critical PHY functions, further reducing power consumption. A rebalanced pipeline with low-level module isolation is also highly optimized for power.

The CEVA-XC4000 incorporates enhanced system-level mechanisms, queues and interfaces to deliver exceptional performance, realizing faster connectivity, higher bandwidth, lower latency and better PHY control. The architecture offers uncompromising modem quality using two distinct inter-mixable high-precision instruction sets, supporting the most advanced 4x4 and 8x8 MIMO algorithms.

In order to better serve CEVA-XC4000 customers, CEVA has also announced today complete reference architectures targeting complex communication standards, including LTE-A Rel-10 and Wi-Fi 802.11ac supporting up to 1.7 Gbps, in collaboration with CEVA-XCnet partners mimoOn and Antcor. These reference architectures are complemented with highly optimized software libraries for LTE-A and Wi-Fi.

Streamlined Software Development

The CEVA-XC4000 DSP architecture is supported by CEVA-Toolbox, a complete software development environment, incorporating Vec-C compiler technology for advanced vector processors, enabling the entire architecture to be programmed in C-level. An integrated simulator provides accurate and efficient verification of the entire system including the memory sub-systems. In addition, CEVA-Toolbox includes libraries, a graphical debugger, and a complete optimization tool chain named CEVA Application Optimizer. The Application Optimizer enables automatic and manual optimization applied in the C source code.

For more information, visit www.ceva-dsp.com [1].

Posted by Janine E. Mooney, Editor

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[1] <http://www.ceva-dsp.com>