

Savoring the Highs and Lows

High performance and low power distinguish our signal processing solutions.

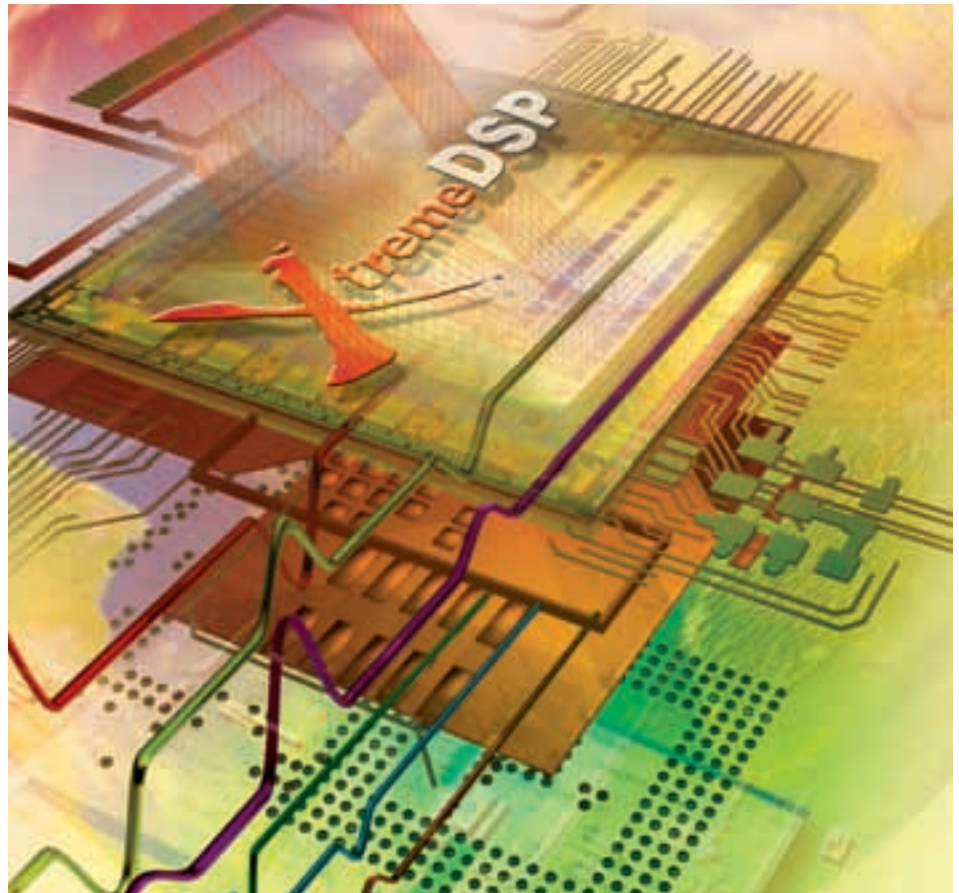


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At around the time of our last Xilinx *DSP Magazine* release, I took a much needed (and planned) sabbatical. As I departed, Xilinx was preparing to launch the first family of devices targeted at lower performance signal processing applications. The Spartan™ DSP family debuted with the Spartan-3A DSP 3400 device and soon followed with the Spartan-3A DSP 1800. While watching from sidelines, the rollout looked great and sampling was underway for both devices upon their April 2007 introduction.

However, what really excited me was news that we beat the production release dates for both devices, delivering them a month ahead of schedule. In addition, the crisp execution of the follow-up Spartan-DSP low-power version delivered on a key value that is and will continue to drive high-performance signal processing decisions.

The LP version delivers a power-efficient specification that is an increasingly important value when meeting performance needs. DSP power efficiency refers to the amount of power consumed in performing signal processing calculations. DSP power efficiency measurements can be applied to systems, functions, building blocks, and



common operations. The Spartan3A-DSP LP delivers 4.06 GMACs/mW at a maximum speed of 250 MHz when analyzing the common multiply-and-accumulate operation. Overall, the device delivers a 50% static power savings and a 70% savings while in suspend mode compared to non-low-power devices. This complements the dynamic power advantage inherent in the Spartan-3A DSP series given the integration of dedicated DSP circuitry (DSP48A slices).

With that execution theme and power efficiency idea in mind, in this, the high-performance DSP edition of *Xcell Journal*, we dig further into the uses of the XtremeDSP™ solution.

Xcell Journal is honored to again have DSP industry icon Jeff Bier from BDTI

expand on why FPGAs excel in signal processing, using independent benchmark results described in his company's report. Also, we welcome *DSP DesignLine* Editor Kenton Williston, who shares his views on what the future may hold for FPGAs and digital signal processing. In addition, we thank all of our contributors in this issue for their outstanding articles and insight in the use of our XtremeDSP solutions in the areas of digital communications, video, and other application areas.

I am excited to be back at work in the Processing Solutions Group and look forward to delivering a host of new solutions to meet your demands. I encourage you to explore the latest advances in XtremeDSP solutions and solicit your input in how we can put this solution to work for you. ●●●