Designing with DSP Builder Advanced Blockset

El Camino
Training - Engineering - Consultancy

Course Description

Learn the timing-driven Simulink design flow to implement high-speed DSP designs. This course focuses on hands-on development of highly optimized DSP algorithms using the advanced blockset capability of DSP Builder—an interface between Quartus® II software & Mathwork's Matlab & Simulink. You'll analyze & design your DSP algorithm using the DSP Builder advanced blockset in Matlab & Simulink. According to your system-level constraints, the timing-driven Simulink synthesis flow will automatically pipeline & time-share hardware. You'll explore architecture & performance tradeoffs with system-level constraints. Also you'll verify functionality & performance of generated hardware in ModelSim® & Quartus II tools. Finally, you'll speed design time by incorporating ready made ModelIP cores.

Skills Developed

- Implement DSP algorithms using Altera® DSP Builder Advanced Blockset
- Incorporate ModelIP cores in design
- Explore design architecture and performance tradeoffs using system level constraints
- Perform RTL simulation using ModelSim-Altera software
- Verify the hardware performance and implementation in Quartus II software

Skills Required

- Familiarity with DSP fundamentals and design
- Familiarity with Altera® Quartus II software is helpful, but not necessary
- Familiarity with Mathworks Matlab and Simulink is helpful, but not necessary
- Familiarity with digital modem design is helpful, but not necessary

Course Length	1 day
Language	Presentation in German or English Slides and documentation in English
Platform	PC Windows XP / Windows 7
Pricing	On request
Dates	On request

Exercises

- Algorithm Development Using Matlab
- Algorithm Implementation using DSP Builder Advanced Blockset
- Device Selection and Performance Verification
- Design Explorations - Multiplier Trade-Offs
- Design Optimization – TDM Hardware Reuse

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Altera Technical Training

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