FPGA Power Optimization

Online Live

Workshop

Applicable Technologies	Requirements	Contact
Xilinx® FPGAs, Zynq® SoC and MPSoC devices	Basic knowledge of FPGA architecture Basic knowledge of the Xilinx® FPGA design flow	Michael Schwarz P. +49 7664 91313-15 E. info@plc2.de

Fee (net per person)	Inclusive	Duration
OL € 1,300	Training material	2 days
WO € 1,700	Plus beverages during breaks Lunch	2 days

Workshop

Attendance at the workshop »FPGA Power Optimization« allows you to better streamline your FPGA applications with regard to power consumption.

This ultimately allows the usage of more cost-effective or smaller FPGAs, lowers the draw of current, uses a cheaper cooling mechanism or simply gains robustness. Mastering the parameters and methods is crucial to achieving these goals since all of them are interacting with one another. Even project schedules are frequently affected by these factors since real values mostly are only known at the very end of the development cycle. The different methods get introduced and will be applied during exercises by the attendees. Attendees of the online live course will do the practical exercises in the afternoon on their own.
Many factors have to be taken into consideration: The clocking system, toggle rates, activity rates, voltage levels, HDL coding style, synthesis, and implementation options as well as environmental parameters. At the beginning of a development cycle, estimates will be necessary; during the coding phase, parameters extracted from simulation, and finally real-world measurements become available. You'll learn how the different techniques work and how to apply them.

Optimize your FPGA's power.
Optimize your methodology!

Agenda

01. Introduction to power optimization
02. Xilinx® power estimator spreadsheet
03. Vivado® power analysis and optimization
04. Power and temperature measurement features
05. Power management design techniques
06. Power optimization of I/O resources
07. Xilinx® FPGA power management features
08. Zynq® UltraScale+™ MPSoC power management
09. How to solve a power problem