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Simulink for Analog and Mixed-Signal Verification

SciEngineer's training courses are designed to help organizations and individuals close skills gaps, keep up-to-date with the industry-accepted best practices and achieve the greatest value from MathWorks® and COMSOL® Products.

Simulink for Analog and Mixed-Signal Verification

This one-day course, targeted toward knowledgeable users of Simulink, uses modeling techniques and tools to demonstrate how to do Mixed-Signal Verification using Simulink.

Prerequisites

MATLAB Fundamentals, Simulink for Analog and Mixed-Signal Design and basic knowledge of digital signal processing and mixed-signal design.

DURATION

1 Day

LEVEL

Advanced

TOPICS

Day 1

- Preparing Simulink Models for Mixed-Signal Verification
- Analog Cosimulation
- Mixed-Signal Verification

Software-Defined Radio with Zynq using Simulink

SciEngineer's Training Services

Preparing Simulink Models for Mixed-Signal Verification

OBJECTIVE: Convert Simulink models to fixed-step solvers for generating SV DPI-C or RTL code for verification.

- Understand Simulink solvers for Analog and Mixed-Signal design
- Compare variable-step and fixed-step solver simulation results
- Determine an appropriate fixed-step sample rate for your model

Analog Cosimulation

OBJECTIVE: Use Simulink and Cadence tools to create and verify analog components.

- Cosimulation of Simulink and AMS Designer with variable step solvers
- Synchronization and solver configuration
- Case study: cosimulation of a PLL
- Use Cadence Virtuoso and Simulink to co-simulate the components of a PLL and compare the results

Mixed-Signal Verification

OBJECTIVE: Use Simulink and Cadence tools to generate and verify components using DPI-C and RTL

- Generate SystemVerilog DPI-C for Analog Mixed-Signal Verification of a Delta-Sigma ADC
- Use C-Code Generation and DPI-C modules for integration with Cadence Xcelium
- Use model references for simulation and RTL code generation
- Generate RTL code using HDL coder for digital verification
- Simulate RTL code and SystemVerilog DPI-C components and compare the result with Simulink