ADS 入 门 教 程 内容简介

1． Basics of using ADS

OBJECTIVES

- Examine the Main window commands and icons
- Create a new project and schematic design
- Setup and perform an S-parameter simulation
- Display the simulation data on a plot and save files
- Tune the circuit to refine the response
- Look through the Examples and do a Harmonic Balance simulation

2．DC Simulations

OBJECTIVES

- Build a symbolized sub-circuit for use in the hierarchy
- Create a family of curves for the device used in the mixer
- Sweep variables, pass parameters, and the plot or list the data
- Use equations to calculate bias resistor values from simulation data

3．AC Simulations

OBJECTIVES

- Perform AC small-signal and noise simulations
- Sweep variables, tune parameters, write equations
- Control plots, traces, datasets, and AC sources

4．S-parameter Simulations

OBJECTIVES

- Measure gain and impedance with S-parameters
- Use a sweep plans, parameter sweeps, and equation based impedances
- Plot and manipulate data in new ways

5．Matching & Optimization

OBJECTIVES

- Create an input match to the RF and an output match to the IF
- Tune and Optimize to achieve matching goals

6．Harmonic Balance Mixer Simulations and E-Syn

OBJECTIVES

- Perform Harmonic Balance simulations
- Test Conversion Gain and Gain Compression
- Optimize values, display and manipulate data in various ways

7．Advanced Harmonic Balance Mixer Simulations

OBJECTIVES

- Perform more 2 tone simulations: TOI (IP3)
- Sweep LO power vs. NF and IF power
- Use functions and variables to control simulations and data

8．Mixer Transient Simulation

OBJECTIVES

- Simulate the mixer using Nyquist rules
- Manipulate various data traces and plots in the data display
- Compare the time domain results to harmonic balance

9．Circuit Envelope Simulations

OBJECTIVES

- Learn basic Circuit Envelope set up and simulation
- Simulate the response of a behavioral amp with a filter
- Simulate the Mixer with the Envelope Simulator

10．TDR and LineCalc with the Transient Simulator

OBJECTIVES

- Simulate the delay through a line
- Simulate a TDR (time domain reflectometry) measurement
- Use the Data Display as a calculator (equations)
- Use LineCalc to analyze impedance and synthesize a matched

11．Amplifier Simulations

OBJECTIVES

- Perform a variety of amplifier measurements using HB and CE

12．Oscillator Simulations

OBJECTIVES

- Use OscTest Element to get frequency and S-parameter information
- Build an oscillator and simulate numerous performance tests.

13．Layout Basics

OBJECTIVES

- Learn basic layout features, including the dual placement, ground plane and clearance creation, and the new graphical cell compile