

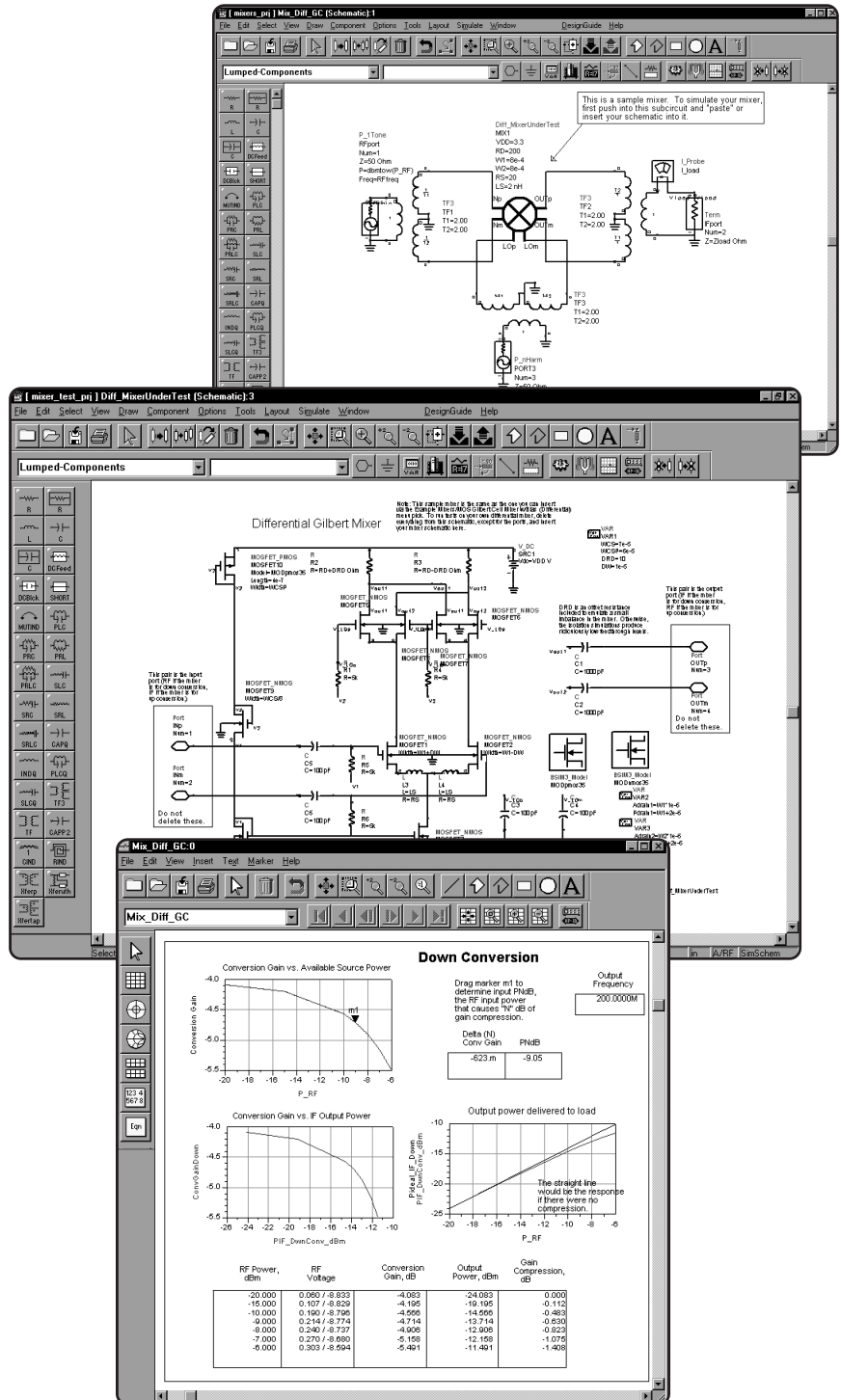
Agilent EEsof EDA E5615A/AN Mixer DesignGuide

Product Overview

Features at a Glance

- **Example Mixers**
 - Single-Ended and Differential Gilbert Cell Mixers
 - Single-Ended and Differential FET Ring Mixer
 - Double-Balanced Diode Ring Mixer
 - Behavioral Model Mixer
- **Device Characterization**
 - I-V Curves for BJTs NMOS, PMOS
 - DC Biasing Test for Gilbert Cell Mixers
- **Mixer Characterization**
 - Single-Ended and Differential Simulation Setups
 - IF Spectrum Isolation
 - Conversion Gain
 - Port Impedances
 - Swept Input Power
 - N-dB Gain Compression Point
 - 2nd and 3rd Order IMD
 - Single-Sideband Noise Figure
 - All Sideband Noise Figure (Most of the above tests are vs. LO Power, Input Frequency, or arbitrary swept parameter)
- **Examples with Modulated Signals**
 - CDMA Source
 - GSM Source
- **Lumped-Element Matching Circuits**

The Mixer DesignGuide works with the Advanced Design System (ADS) to help streamline the design processes for mixers used in both RFIC and microwave circuit designs.



The Mixer DesignGuide enables rapid setup, analysis, and results display to help you verify the most common performance specifications of mixers, such as P1dB, IF spectrum, port isolation, conversion gain, port impedance, 2nd & 3rd order intermodulation and distortion, and noise figure. Most of these performance tests are versus LO Power, Input Frequency, or an arbitrary swept parameter.

The DesignGuide includes simulations that determine the small-signal and large-signal performance of the device under test within a variety of test conditions.

The Mixer DesignGuide dramatically shortens design cycle time. It reduces time-consuming and tedious setup of circuits, equations, and displays. The time you save allows for more testing, giving you greater insight into the circuit behavior and more confidence in your design's success.

System Requirements

- Advanced Design System 1.3 or later version installed
- Agilent E8900A/AN Design Environment
- Agilent E8901A/AN Data Display
- Agilent E8881A/AN Linear Simulator License
- Agilent E8882A/AN Harmonic Balance License
- Circuit Envelope required for modulated signal simulation only.

For more information about Agilent EEsof EDA visit:
www.agilent.com/eesof-eda

For more assistance with your test & measurement needs visit:
www.agilent.com/find/assist

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