



Precision Measurements and Models You Trust

Services

Modelithics provides the highest-quality custom modeling and measurement services for RF/microwave electronic devices. Our team has excellent technical know-how, software mastery, and state-of-the-art capital equipment. We are setting the standard for RF/MW modeling.

- **Models-on-Demand™** — custom modeling and measurement services
- **ModEx™** — 1 to 3 day turnaround Models-on-Demand for certain devices
- **Model Validation** — measurement verification of RF/MW/MM-wave models
- **Library Management** — long-term management and technical support of Modelithics or custom EDA software model libraries
- **Consulting** — model library planning, applications of accurate models for reducing design time and cost, and other requirements related to RF/MW/MM-wave measurements, circuit design, and modeling

Our quality of service, customer response, and reliable delivery are reasons we can list three of the world's largest electronics manufacturers – Motorola, TDK Electronics, and Delphi Automotive Systems – among our customers. We look forward to the opportunity to provide similar high-quality products and services to you and your company.

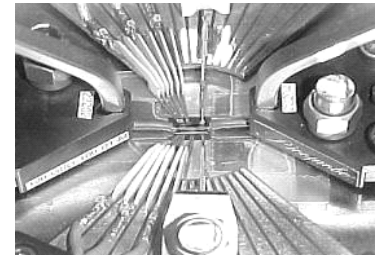
Free sample models and additional information available at www.Modelithics.com

Measurement Capabilities — DC to 110 GHz

- 🔑 S-parameters: 2-port and 4-port
- 🔑 Noise Parameters, Noise Figure
- 🔑 Phase Noise, 1/f Noise
- 🔑 Load / Source Pull: Power, Efficiency, Linearity
- 🔑 Spectrum Analysis
- 🔑 DC-IV, Pulsed IV, C/V, Low Resistance
- 🔑 High-power RF compression/failure testing

Software and other Resources

- 🔑 Model Extraction Software: In-house and Commercial
- 🔑 Multiple Electronic Design Automation (EDA) Tools
- 🔑 Electromagnetic Analysis Software
- 🔑 Measurement Calibration and Data Acquisition Software
- 🔑 Hybrid Board Assembly
- 🔑 Fixturing for On-wafer, Chip-and-Wire, and Packaged Devices



TRANSISTORS

- MESFET / JFET
- HEMT / PHEMT / HFET
- BJT / HBT
- MOSFET
- LD MOS

DIODES

- SCHOTTKY
- VARACTOR
- PIN

PASSIVES

- RESISTORS
- CAPACITORS
- INDUCTORS
- INTERCONNECTS
- PACKAGES
- TRANSFORMERS

SYSTEM BLOCKS

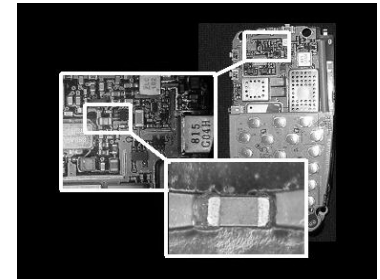
- MIXERS
- AMPLIFIERS
- UP / DOWN CONVERTERS
- RFIC / MMIC
- FILTERS
- SWITCHES



Software Products

The Modelithics Library™ contains the industry's most accurate and well-documented measurement-based models for a variety of semiconductor device technologies, as well as surface mount components, of different body sizes and part values from numerous vendors. The Modelithics Library is available for the leading RF and microwave electronic design automation (EDA) tools, and includes the following products:

- **Transistor Library** — includes non-linear and noise models for a wide range of transistors, including: BJT, HBT, JFET, MESFET, HEMT, PHEMT, and MOSFET
- **Diode Library** — models for Schottky, varactor, PIN devices and others, in a variety of package types, from multiple vendors
- **CLR Library** — consists of capacitor, inductor, and resistor Global Models,™ each substrate-scalable and part-value scalable to represent an entire component family (typically 25 to 75 part values)

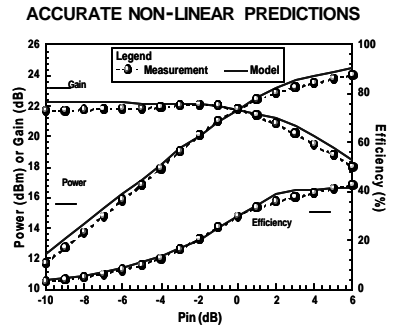


- Floating licenses available
- Additional license discounts up to 50%
- Platinum Maintenance includes free updates
- Free sample models
- Leasing options available

About our Models

Modelithics' accurate and reliable models improve design efficiency of high-frequency electronics devices, while cutting product development costs and time to market, allowing better allocation of engineering resources.

Modelithics equivalent circuit models are extracted from precision measurements, and include advanced features such as: part-value and geometry scaling, substrate scaling, temperature and bias scaling, representation of high-order resonance effects, accurate effective series resistance, and 1/f noise in applicable models. In addition to accurate 2-port and multi-port S-parameters, our models fit impedance, Q-factor, pulsed IV, noise, and load/source pull data for non-linear distortion, power, and efficiency, as applicable.



- Part-value and geometry scalability
- Substrate scalability
- Temperature and bias dependence
- Representation of higher-order resonance effects
- Precise modeling of effective series resistance
- Noise parameters, 1/f noise
- Load-pull validation
- Complete documentation

