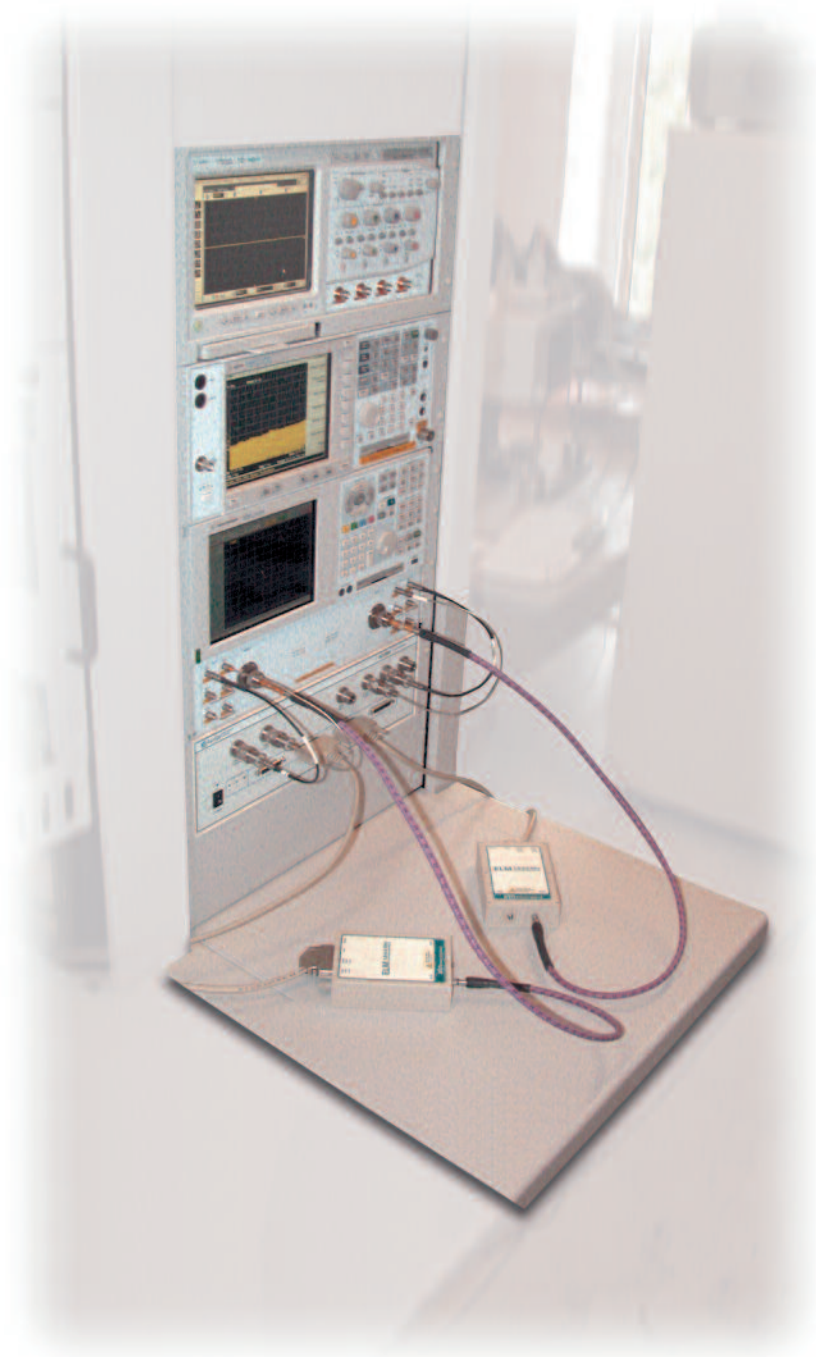
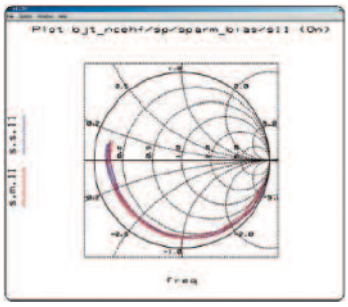
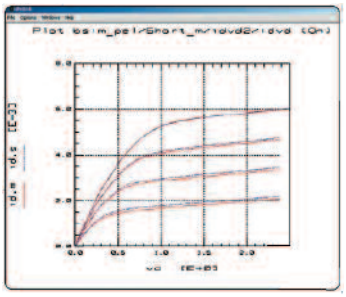
# AU6700 Series

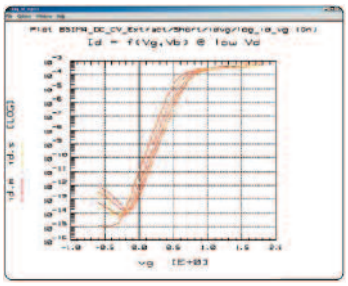
## Pulsed IV RF Modeling System

Accurate and efficient model parameter extraction from pulsed IV and pulsed RF measurements in a complete, turn-key system.









Agilent Technologies

Channel Partner

AURIGA

MEASUREMENT SYSTEMS, LLC

# AU6700 Series
## Pulsed IV RF Modeling System

### Start your next designs using accurate models

In the competitive markets of RF and microwave electronics, performance and cost are critical. Today's circuit simulation tools can help you reduce time to market, increase performance and reduce costs but they require the generation of accurate device models that are very time consuming to create. The Auriga Pulsed Modeling System provides you with a significant advantage over the competition by helping you build the most accurate and up-to date devices models for your simulations.

### Improved Performance, Faster Time to Market and Reduced Costs

Predicting nonlinear analog circuit behavior, such as gain compression and harmonic distortion requires accurate device models. These device models are the foundation for circuit simulation. Simulations based on inaccurate data can give false predictions of circuit behavior costing you time and money. Through the use of accurate device model and circuit simulation software you can reduce the number design iterations. Reducing the number of design iterations not only reduces your time-to-market, it also directly reduces your design costs.

### High performance device modeling system

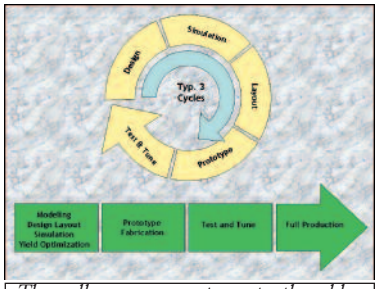
Accurate device models are built on accurate device measurements. The Auriga Pulsed Measurement System incorporates Auriga's own state-of-the-art DC Pulser as well as measurement equipment from Agilent Technologies. This guarantees the highest measurement accuracy, which translates to accurate model parameters required for circuit simulation. The Auriga device modeling system is fully integrated, tested, and ready to use, delivering immediate results to your next design project. The system includes a one year warranty to insure your ongoing success. The modeling system can also be interfaced to the RF/Microwave probe stations from Cascade Microtech, Inc. Using Cascade's proprietary calibration techniques, the system can calibrated for highly accurate on-wafer measurement results.

### Powerful modeling software

The Auriga Pulsed Modeling System can be controlled from either Auriga's modeling software or Agilent's IC-CAP. These software packages are used to obtain necessary data for model parameter extraction. IC-CAP interfaces with SPICE, HSPICE, Spectre, Eldo, Saber and Agilent Eesof's Advanced Design System. Industry standard modeling routines for BJT, MESFET, HEMT, MOSFET, and TFT devices are available.

### Characterization with pulsed measurements reduce self heating

Many devices heat up significantly during the measurement due to the power dissipation. The traditional measurement of IV curves for example is not accurate if one needs to find the RF trajectory on an IV plane, because different temperatures and other long-term effects, such as channel traps, modulate every point measured. Short pulse measurement will eliminate these effects and provide accurate IV curves under constant temperature conditions, which can be used to predict RF trajectories. S-Parameters measured under the same conditions are used to extract equivalent circuit components values to find out variation of these values under RF. Precise description of behavior of these components leads to accurate models to describe various non-linear characteristics. The Auriga Pulsed Modeling System provides the capabilities of measuring pulsed DC and RF (S-Parameters) characteristics from arbitrary bias point, thus keeping the temperature (and bias stress) constant during the measurement. The Pulsed Modeling System can also be used to measure devices with inadequate heat-sinking–a continuous bias technique can damage devices due to excessive heating. By using pulsed bias and RF on-wafer measurements can be performed even at power levels beyond the normal operating region. This is important for developing models that are accurate over wide ranges of bias and RF conditions.




*The yellow arrow represents the older design process with multiple iterations through the design-prototype-redesign phases while the green arrow shows how the new approach to design can help get your product to market faster. This new and modern approach to design uses design automation software and modeling tools to reduce the need for redesign and re-prototyping.*



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