Pulsed Measurement of IV Characteristics and RF Parameters

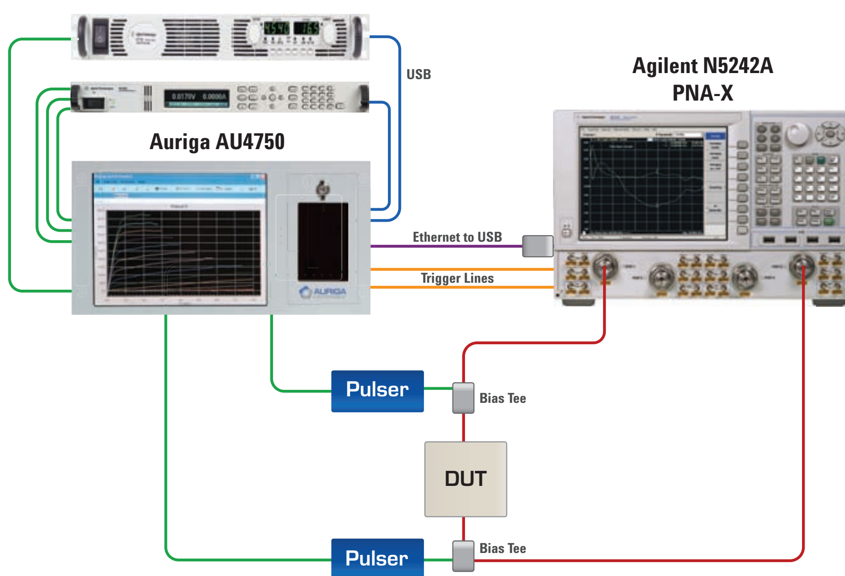
Agilent Technologies and Auriga Microwave

Accelerate your design process with pulsed IV/RF measurements

Pulsed measurements are the preferred method of capturing current-voltage characteristics (IV characteristics) of active devices such as field effect transistors (FETs) and bipolar junction transistors (BJTs). With the growing popularity of high-power devices like GaN HEMTs and LDMOS devices, the measurement of these characteristics is becoming ever more challenging.

To meet these challenges, Auriga Microwave has developed the AU4750, a next generation pulsed IV/RF measurement system. With a modular hardware design and open software architecture the AU4750 is designed to meet the needs of the device modeling community. The system is a full-featured characterization platform capable of measuring DC-IV and pulsed-IV curves, expandable to pulsed S-parameters. With pulse widths as narrow as 200 nsec and duty cycles as low as .001%, the AU4750 is ideally suited for isothermal testing of devices subject to the effects of self-heating.

The AU4750 can deliver up to 200 V and 30 A, essential for designers working with high-power devices. For pulsed-RF measurement of two-port small-signal scattering parameters, the AU4750 is interfaced to an Agilent PNA-X microwave network analyzer. The Agilent network analyzer is fully integrated with the AU4750. The PNA-X software controls the setup, calibration and measurement tasks while the AU4750 controls the timing and triggering used to coordinate the pulsed DC and S-parameters measurements.



- ***Pulsed measurement of active device IV characteristics***
- ***Expandable to pulsed measurement of S-parameters***
- ***Provides up to 200 V, 30 A for high power active devices***
- ***External pulser heads minimize signal degradation***
- ***Used with Agilent PNA-X for pulsed-RF measurements***
- ***More accurate device modeling for improved simulation***
- ***Accelerates your design process***

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Pulsed Measurement of IV Characteristics and RF Parameters

The system can be used for pulsed-RF measurements up to 5 MHz with a minimum pulse width of 250 nsec. The AU4750 Pulsed IV/RF Measurement System is supplied with two external and interchangeable pulser heads. External heads allow the pulser circuitry to be located closer to the device under test, minimizing signal degradation due to transmission line effects. The AU4750 comes with four Agilent external power supplies to provide the quiescent and non-quiescent voltages for the gate (or base) and drain (or collector).

With the speed and accuracy provided by Auriga Microwave's AU4750 Pulsed IV/RF Measurement Systems you can simulate your components under real-life conditions allowing you to accelerate your design process and improve your time-to-market.

To learn how this solution can address your specific needs please contact Agilent's solutions partner, Auriga Microwave

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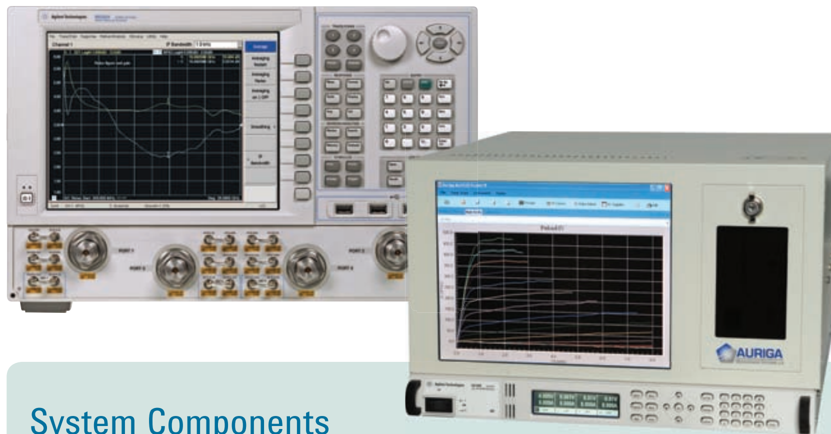

System Components

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N5242A	Agilent PNA-X microwave network analyzer
N5242A-H08	Pulsed RF measurement
For wideband detection	
N5242A-025	Four internal pulse generators
N45242A-080	Frequency offset measurements

Auriga Microwave

AU4750	Pulsed IV/RF system

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Auriga Microwave is a recognized international leader in modeling, measurement and design of RF, microwave and millimeter-wave technologies.
www.aurigamicrowave.com

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