

Pulsed IV/RF Measurements

Keysight Technologies and
Auriga Microwave

Accelerate your design process with pulsed measurements of IV characteristics and RF parameters

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 AU4850, its next generation pulsed IV/RF characterization system. With a modular hardware design and open software architecture the AU4850 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 70 ns and duty cycles as low as .001%, the AU4850 is ideally suited for isothermal testing of devices subject to the effects of self-heating

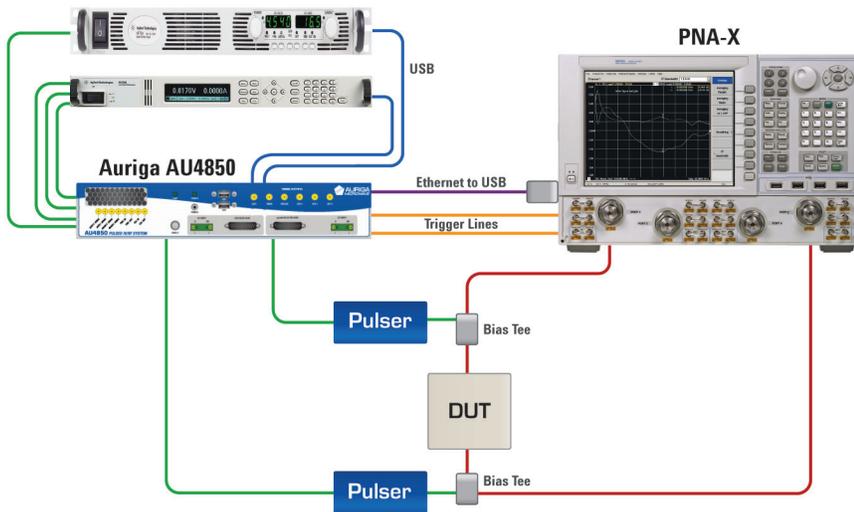
The AU4850 can deliver up to 600 V and 30 A, essential for designers working with high-power devices. For pulsed-RF measurement of two-port small-signal scattering parameters, the AU4850 is interfaced to a Keysight PNA-X microwave network analyzer. The Keysight network analyzer is fully integrated with the AU4850. The PNA-X software controls the setup, calibration and measurement tasks while the AU4850 controls the timing and triggering used to coordinate the pulsed DC and S-parameters measurements.

The system can be used for pulsed-RF measurements with rise time of 20 ns and minimum pulse width of 70 ns. The AU4850 Pulsed IV/RF Characterization 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.

- Pulsed measurement of active device IV characteristics
- Expandable to pulsed S-parameter measurements
- Provides up to 600 V, 30 A for high power active devices
- External pulser heads minimize signal degradation
- Used with Keysight PNA-X for pulsed-RF measurements
- More accurate device modeling for improved simulation



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The AU4850 comes with four Keysight 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 AU4850 Pulsed IV/RF Characterization System you can simulate your components under real-life conditions allowing you to accelerate your design process and improve your time-to-market.

System Components

Keysight Technologies

N5242A	PNA-X microwave network analyzer
Option 219	Extended power range & bias-tees to 2 port analyzer
N1966A	Pulse/IO Adapter
For narrowband detection, add	
Option N5242A-008	Pulsed-RF measurements
Option 025	Four internal pulse generators

Auriga Microwave

AU4750	Pulsed IV/RF system
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To learn how this solution can address your specific needs please contact Keysight's solutions partner, Auriga Microwave
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Auriga Microwave is a recognized international leader in modeling, measurement and design of RF, microwave and millimeterwave technologies.

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