

Family of Testers Automates & Accelerates Life Testing

AARTS fully integrated, automated, turnkey system provides flexibility and accuracy in determining RF and DC performance degradation with aging to predict life expectancy for compound semiconductor devices.

A single system to simultaneously ...

- Determine life expectancy of compound semiconductor components
- Characterize components during test to show RF and DC degradation with age

Multidimensional Dynamic Testing

- Automatically perform 3-temperature life tests
- Automatically characterize components

Aggregate Analysis Tools

- Supports generic SPA sweep, Gain Compression, and Stress data extraction
- Arrhenius, Lognormal, Weibull and Exponential models available

Stimulate each DUT with ...

RF

- Independent RF drive level for each DUT
- Frequency ranges to 77GHz and RF input up to 50W

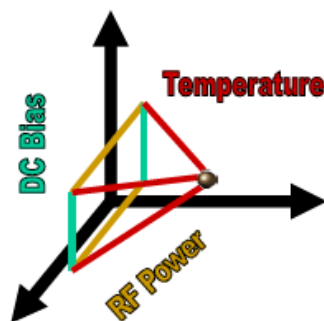
DC

- Two independent bias sources (up to 100V, 4A at 200W max)
- Bias can be constant voltage or constant current sources

Temperature

- Independent "Channel" or "Surface" temp control for each DUT
- +50°C to +300°C

Testing Tomorrow's Technology Today



Versions Simultaneous DUTs per system RF 4, 8, 16 DC 24, 36, 48, 60, 72, 96 RF Ranges 600 MHz to 3GHz 900 MHz to 12GHz 2 GHz to 18 GHz Millimeter-wave bands available) Max RF Input Power per DUT +20 dBm (typical) +15 dBm (minimum) Max RF Output Power per DUT 30 watts DUT RF Input Level Adjustment >40 dB	Application Software Setup Pull down menus w/ forms that define test scenario for each DUT. Includes: DC, RF, temperature and over 40 parameters of measurement Control DUT temperature, 2-DC biases, RF input and output signals Calibration Automated calibration of temperature, DC and RF Limit Checking Continuous DUT Data Logging User defined rate Data Storage Dual disks for redundancy Data Storage Rates: Normal User defined rate Data Storage Rates: Accelerated Parameter delta rates exceeded Alarm Notification Display & email: device shutdown, test sequence, UPS shutdown, low gas pressure, disk usage, etc. Data & Status Displays Multi-channel grid; single-channel composite; plot; SPA I-V curve; event log Network Support Ethernet card w/ email notification, Complete plot utility w/ data analysis Data Analysis Activation energy and SPA parameter extraction and analysis Online Reference Reliability Assurance Guideline
DUT Configuration RF & DC Any die, standard packages or custom design Accuracy +/- 2°C Range +50° to +300° C (under no load) Sensor Thermocouple per DUT fixture	Data & Status Displays Network Support Data Analysis Online Reference
Heater Control Unit (HCU) Independent Channels up to 32 Setup & Control GPIB	Personal Computer (Rackmount) System Control PCI GPIB Network Support PCI 10/100 Mass Storage Two internal hard drives Monitor 17" diagonal color LCD Operating System Microsoft Windows 7 Ultima/10 Professional
RF Distributor Unit (RFU) Independent Channels up to 16 Input Power per DUT +15 dBm (without SSPA) Output Power per DUT 45dBm (30 watts) DUT Input Level Adjust >40 dB Setup & Control GPIB	Physical Characteristics (Size) Single Rack (4, 8, 24, 36 Channels) 57 x 140 x 91 cm Double-Rack (16, 48, 60, 72 Channels) 114 x 140 x 91 cm Triple-Rack (96 Channels) 171 x 140 x 91 cm
Solid State Power Amplifiers (SSPA) Independent Channels up to 16 Power per DUT Up to 50 watts (frequency dependent - contact factory)	Weight Single-Rack 210 kg / 458lbs typical 1-bay Double-Rack 415kg / 917lbs typical 2-bay Triple-Rack 635kg / 1375lbs typical 3-bay
DC Power Control Unit (PCU) Independent Channels Two bias supplies per channel Bias 1 0.5V to 100V; up to 3A - (Pmax = 200W) Bias 2 -12V to +12V; up to 0.5A Driven Constant I, V, or P Shutdown Within 1usec Setup & Control GPIB	Power Single-Rack 120/208 VAC, 30 amp, 50/60 Hz Double-Rack 230/400 VAC, 20 amp, 50/60 Hz Triple-Rack 120/208 VAC, 40 amp, 50/60 Hz 230/400 VAC, 30 amp, 50/60 Hz 120/208 VAC, 60 amp, 50/60 Hz 230/400 VAC, 50 amp, 50/60 Hz
Switch Matrix Unit (SMU) Independent Channels up to 96 (Triaxial) Setup & Control GPIB	Peak Power Single-Rack 2.0 KW Double-Rack 3.5 KW Triple-Rack 8.0 KW
Semiconductor Parameter Analyzer (SPA) Independent Channels up to 96 multiplexed Type Keysight/Keithley Unit Compatible Setup & Control GPIB	Nitrogen (N2) Input Connect to a 1/4" Swagelok®
Uninterruptible Power Supply (UPS) Capacity: 4, 8, 24 channels 5 KVA Capacity: 16, 36, 48, 60 channels 10 KVA Capacity: 72, 96 channels 20 KVA Setup & Control Serial	Environmental Requirements Standard laboratory