SMART^E™ 5300

General RF-Microwave Test Environment

AEROFLEX
A passion for performance.

COMPLETE PACKAGE

This complete test environment encompasses hardware, software and support providing competitive advantage for all customer requirements.

EVOLVING TECHNOLOGY – INDUSTRY STANDARD

The 6th generation SMART^E General RF/Microwave Test Environment continually adapts and embraces the latest technology to consistently provide best in class, cutting edge results and performance.

Our software and hardware are based on well established and proven industry standards. This allows for quicker production, system integration, delivery and start-up.

PERSONALIZED

A modern, open architecture allows each SMART^E to be customized for your requirements.

RELIABLE – COST EFFECTIVE – FUTURE PROOF

Our modular implementation minimizes obsolescence costs, facilitates updates and upgrades, and greatly extends the test environment's overall life cycle.

The SMART^E™ 5300 General RF-Microwave Test Environment provides a modular approach for implementing multi-function, configurable test systems. SMART^E is a completely integrated environment with all the hardware and software needed for test execution, test reporting, test analysis and calibration. A SMART^E RF/microwave sub-system can perform measurements that traditionally would require five or more separate RF/microwave instruments.

SMART^E utilizes multi-functional stimulus and response measurement hardware channels coupling Digital Signal Processing software (rather than a collection of dedicated function instruments) to generate signals and perform measurements.

This unique combination of integrated tests, system calibration methods and superior throughput yields the lowest total cost of test over the life cycle of the environment.

- The 5300 configuration provides emulation of many special purpose microwave instruments:
  - RF Signal Generator
  - Spectrum Analyzer
  - Power Meter
  - Noise Figure Meter
  - Vector Signal Analyzer
  - Phase Noise Analyzer
  - RF Frequency Counter
  - Microwave Transition Analyzer
  - and more ….
- This emulation includes instrument IVI drivers which present an instrument interface to the user to facilitate legacy TPS's compatibility.
- Software programmability of the system provides customization to match performance of legacy systems and instruments such as the Microwave Transition Analyzer (MTA) to ensure legacy TPS's compatibility.
- The SMART^E's cutting edge performance is a result of using software configurable modules which utilize the best industry hardware and software standards.

5000 SMART E™
SMART ENVIRONMENT 5000 SERIES

SMART^E™ 5300 Characteristics

A SMART^E™ 5300 may be configured with variable combinations of the following hardware, software and support elements

Hardware

- **Stimulus subsystem**
  - One or more synthetic RF-microwave Stimulus Channels operating to 8, 12, 20, 26.5 or 40 GHz in pulsed, CW or AWG source modes
  - One or more third party RF Signal Generators to provide the best price/performance tradeoff for each system
  - Modular architecture supports arbitrary waveform generators matched to the specific requirements
  - Options for low cost analog signal generators
  - Noise source
  - Integrated pattern generators to support device under test control with tightly coupled measurements
- **Signal calibration and routing**
  - NIST traceable calibration methodology supports the specification of the system performance at the plane of the device under test, *NOT* just at the internal instrument outputs inside the rack
  - System performance is superior to individual instrument performance
  - Internal signal routing to support fast, accurate self calibrations
  - No requirement for extensive instrument suites in roll-up calibration carts
  - All components calibrated at system level with no requirement for individual units calibration
- **Measurement subsystem**
  - One or more Synthetic RF/microwave Response Measurement Channels configured for operation to 8, 26.5 or 40 GHz with instantaneous RF bandwidth of 400 (up to 800) MHz
  - Support for narrowband and broadband digitizers to optimize the digitizer function for the specific instrument measurement
  - Programmable input gain including a low noise, front-end amplifier
  - High performance modular digitizers which may be used for a variety of signal capture functions
  - s-parameter test set for microwave vector measurements

Software

- IVI class compliant and custom specific drivers provide an instrument interface to the system to facilitate Test Program Sets (TPS') compatibility
- Synthetic instrument driver to support measurement-based test development
- System console to support instrument emulation and manual control
- National Instruments TestStand™ Test Management Software
- Aeroflex Measurement Console (AMC), sequencer and operator interface
- Aeroflex designed API enables customer interface to the system

TURNKEY SOLUTIONS

Aeroflex offers complete turn-key environments. This means that the customer does not have to fund the internal development, integration and validation of the individual tests. Aeroflex does this for you.

ZERO DOWNTIME

Our quick responding technical support staff provide 24/7 support worldwide. This ensures your demanding schedule is not impaired by unforeseen issues.

OPEN ENVIRONMENT

The SMART^E software architecture allows your developers to write code interfacing with our API's. This powerful capability allows further customization of existing measurements or design you already own.

TECHNICAL TRAINING

Experts for each aspect of the test environment are available to provide a wide range of technical training.

For more information on any of our products or services please visit us on the web at: www.aeroflex.com or contact us at +1 614 888 2700.

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