Product Capabilities

Synthetic Test Systems

Progressive companies in the test and measurement industry are working to meet the challenges of developing an approach that cost effectively meets today's test demands while preserving the investment of test in the future. Synthetic test systems have emerged as the solution of choice for many, and Aeroflex is the industry leader in high speed and high performance RF and microwave test systems based on this approach. Aeroflex provides a highly integrated, turn-key, hybrid synthetic test environment that allows digital, analog, RF/microwave and power test of circuits, modules, subsystem and complete systems for commercial, military, and aerospace customers.

Synthetic Test Environments "synthesize" stimuli and measurement capabilities found in any traditional instrument through a combination of software and hardware modules integrated in a synthetic architecture which includes sophisticated algorithms, calibration and diagnostic routines, as well as NIST traceable standards and an open software architecture. Non-traditional measurements can also be easily created by the user. Since this approach is instrument independent this type of synthetic test environment is obsolescence proof and easily maintainable, thus offering the highest performance at the lowest life cycle cost in the industry. Modern products such as software defined radios, smart phones and other communication systems are also based on this principle thus making this test approach highly optimized for modern applications. Hybrid synthetic test environments can also emulate legacy/obsolete test instruments and systems thus allowing easy replacement of no longer procurable test equipment without having to re-develop or re-write existing test sequences and test program sets.

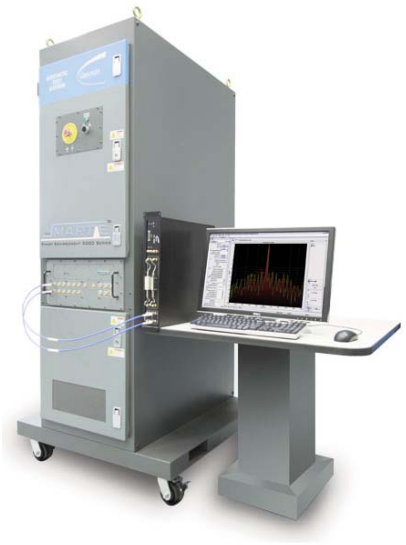
SMART^E™ 5000

The SMART^E™ 5000 (Synthetic Multi-function Adaptable Reconfigurable Test Environment) is a family of products that provide a modular approach for implementing multi-function configurable (and reconfigurable) test systems. A SMART^E™ RF sub-system, about the size of a microwave synthesizer, can perform DC to 40 GHz measurements that traditionally require five or more separate RF/microwave instruments. SMART^E™ is a complete integrated environment of all the hardware and software needed for calibration, diagnostic, test execution, test reporting and test analysis.

SMART^E™ 5100 T/R (Transmit/Receive) Module Test Environment for Synthetic Phased Array Radar Elements and Antennas Test and Measurements

Key Features:

- High speed, accurate measurements
  - Calibration out to plane of DUT
  - Calibration methodology NIST traceable
    - Standard VNA calibration techniques implemented
    - Supports the use of auto-calibration techniques as well as calibration standards integrated into DUT's or fixtures
- Supports all TRM tests
  - s-parameters, noise figure, compression, two tone, time domain, DUT control, and more
- Integrated DUT control
  - Integration of DUT control with RF generation provides high speed measurement capability
  - Driver abstracts the details of DUT control from the main sequences
    - Customers can develop their own DUT control drivers for new products



Aeroflex Synthetic Test Products

- SMART^E™ 5100
- SMART^E™ 5200
- SMART^E™ 5300

A passion for performance.

SMART^E™ 5200 Satellite Test Environment for Panel, Payload, TVAC (Thermal Vacuum), and Antenna Range Test and Measurements

Key Features:

- Complete turnkey system
- Supports all standard satellite payload tests
- High speed, accurate measurements
- Unique calibration methodology
  - – Calibration methodology NIST traceable
  - – Amplitude and phase calibration out to plane of DUT
  - – Unique calibration scheme compensates for amplitude and phase drift in cables due to temperature drift in TVAC
- Supports multi-carrier broadband stimulus and response
  - – Multi-carrier stimulus signals with instantaneous BW up to 900 MHz
  - – Measurements of relative amplitude and phase across many carriers/channels
- Remote calibration unit (RCU)
  - – Multiplexes up to 384 ports
  - – Operates in TVAC environment
  - – Facilitates “Best in Class” calibration
  - – Can be located 15 meters (or more) from main rack

SMART^E™ 5300 General RF/Microwave Test Environment

Key Features

- Replaces functionality of rack-and-stack instruments
  - – Same functionality in smaller footprint with equivalent (or better) performance
  - – Multiple measurements mapped to a single receive channel (or multiple channels, as required)
  - – Can emulate obsolete instruments such as old HP Microwave Transition Analyzer (MTA)
- Multiple methods for software interface
  - – IVI instrument drivers to support legacy tests
  - – Synthetic (signals based) driver to support future test development
- System level calibration
  - – Calibration can accommodate characterization of hardware (switches, cables, ITA’s, etc.) to simplify tests
  - – Calibration time is reduced
    - A small number of calibration standards are removed for calibration
    - The rest of the system is calibrated using internal assets (no requirement for calibration cart)

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