

Satellite Test

Agilent Technologies and AAI Corporation

Accurate, reliable and traceable testing of satellite payloads and panels

Testing is a major cost when manufacturing and introducing new satellite payload and panel products. Repeatable, accurate and traceable test data is critical through multiple assembly stages and environments. Test results at the subassembly level must correlate with those at the next assembly level so problems can be identified quickly, and costly additional calibration and testing prevented.

AAI's WaveCore Satellite Panel and Payload Test System (WaveCore PTS) includes advanced instrumentation and measurement capabilities to minimize test time and ensure repeatability and test-to-test data correlation. The Satellite Panel and Payload Test System is part of AAI's WaveCore family of standard test solutions. Based on the latest commercial, off-the-shelf (COTS) instrumentation, the system is designed to provide reduced measurement uncertainty with very high levels of reliability, maintainability and support.

The WaveCore PTS features modular, scalable hardware and software allowing the system to be deployed affordably for both production and engineering applications. Users can populate a sub-system tester, satellite panel or satellite payload tester with just the instruments required for the specific test sequences.

As test requirements change you can include additional instrumentation and resources.

Traceable data is ensured through AAI's software environment that utilizes industry-standard test sequencers for consistent, easy-to-access results and calibration data. By using the latest commercial test equipment test time can be reduced by an order of magnitude

- *Satellite Panel and Payload Test System*
- *Modular and scalable*
- *Reduced test time with traceable data*
- *Standard and familiar interface*
- *Fast, real-time calibration cycles*
- *High mean time between failures (MTBF) and low mean time to repair (MTTR)*



Agilent Technologies

Satellite Test

or more over legacy testers. In addition the WaveCore PTS features a standard test conductor interface that is compatible with previous-generation payload testers, allowing efficient and low-risk integration of AAI's next-generation test systems.

The system incorporates a number of test instruments from Agilent Technologies in order to achieve its measurement capabilities and test speed. These include the Agilent N5244AS PNA-X network analyzer, E8267D PSG RF vector signal generator, N8241A 15-bit arbitrary waveform generator, N1914A power meter, E4413A-H33 power sensor and the N9030A PXA signal analyzer. The standard system supports vector-based testing up to 40 GHz with various equipment options available to support testing at different frequency ranges and for unique test requirements.

The AAI WaveCore PTS can perform a comprehensive array of panel and payload tests, including: frequency response; gain transfer; delay; out-of-band attenuation; repeater isolation; spectrum measurements; translation frequency; noise figure/noise power ratio; intermodulation; effective isotropic radiated power; amplitude modulation/phase modulation conversion; automatic level control characteristics; relative amplitude and phase; phase versus frequency; RF output power with or without modulation; and ranging.

Automatic calibration and calibration verification software is included with the systems, which ensures the achievement of uncertainty targets, reduces calibration cycles and enables easily correlated confidence checks in real time. The system's self-test software can verify test station setup and stability quickly and automatically. Test source code, documentation and training are available, enabling customers to modify or add new tests for their own unique requirements. AAI also offers support plans to ensure 24-hour repair time and keep systems up and running within the available support budget.

By utilizing commercially available instrumentation from Agilent Technologies the AAI WaveCore Satellite Panel and Payload Test System ensures that you can accurately and reliably test your satellite products with fully traceable results.

System Components

Agilent Technologies

N5244AS	PNA-X network analyzer
E8267D	PSG RF vector signal generator
N8241A	Arbitrary waveform generator
N1914A	Power meter
E4413A-H33	Power sensor
N9030A	PXA signal analyzer

AAI Corporation

200050	High speed digital controller
200200	Radio frequency interface unit

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

www.agilent.com/find/aa1



Agilent Solutions Partner Program
Agilent and its Solutions Partners work together to help customers meet their unique challenges, in design, manufacturing, installation or support. To learn more about the program, our partners and solutions go to www.agilent.com/find/solutionspartner

The AAI Corporation, a global organization providing innovative aerospace and defense technologies. AAI is an operating unit of Textron Systems, a Textron Inc. company. www.aaicorp.com

For information on Agilent Technologies' products, applications and services, go to www.agilent.com

Product specifications and descriptions in this document subject to change without notice.

© Agilent Technologies, Inc. 2011
Printed in USA, November 18, 2011
5990-9512EN



Agilent Technologies