Agilent Aerospace Defense Component/Subsystem Test Platform Product Overview

Z2090B Aerospace Defense Component/Subsystem Test Platform

The Z2090B Aerospace Defense Component/Subsystem Test Platform, when coupled with Agilent's world wide support capability, measurement science expertise and ability to deliver systems when and where needed, can provide you with all of the electronics test capability you need to keep your aircraft flying, ensuring your spacecraft functions as designed or your ground electronics meet requirements.

Platform Product

Z2090B is a platform solution. Platform solutions are Agilent's recommended approach to manufacturing test systems. The platform concept includes a standard product architecture that meets the major part of the test needs for a Unit Under Test (UUT). As a standard product the platform has a number of available options to increase the capability of the standard design. Agilent has put in place the infrastructure and the processes to tailor and/or customize the product even further to meet 100% of the customer's needs.

Platform based solutions include not just the specific hardware required by a customer, but also the software, training, consulting, support, and service needed to ensure a complete solution.

The Agilent Platform Product Concept

- Maximizes the use of commercial off the shelf (COTS) products while still meeting the customer needs

- Includes hardware, application software, and system software

- Agilent's infrastructure and processes provide a solution that is easily repeated, updated, and maintained

- A solution that goes beyond integration and includes long term hardware and software support

- A system platform that is linked to future instrument development

- Leverage Agilent expertise

Z2090B - Key Features and Benefits

Specialized hardware and the latest instruments

- More repeatable and accurate measurements
- Better feedback on DUT failures
- Reduce system maintenance and calibration cycles

Instrument upgrades are linked to the test system

- Keep up with latest measurements/RF formats allowing faster response to technology and product turnover
- Better Return on Assets (ROA)
- Improved instrument revision control and guaranteed software compatibility

World-class measurement technique expertise

- More stable and repeatable measurements
- Improved correlation across systems
- Software—Open environment
- Choice of industry standard operating system, test expertise, and languages

- Faster test process development
- Less Test Engineering resources required for each New Product Introduction (NPI)

Software—System Tools

- Faster self test and system calibration
- Correlation across test systems
- Specify system at DUT ports

Software—Operator Interface

- Faster test
- Faster tuning time
- Simultaneous tuning of multiple test parameters
- Lower skill level operators

Comprehensive, tailorable support

- Globally coordinated, locally delivered support
- Tailor support by site
- Better MTTR

Agilent Z2090B - Value Proposition

Quality

- World-class Tradition and Synthetic Instruments
- Quality Manufacturing Processes
- Self-test and System Calibration

Support

- Global Service
- Technical Support
- Full Service Consulting

Life Cycle Economy

- Competitive System Pricing
- Low Life Cycle Cost
- Extended Support Life

Technology

- System and Product Roadmaps
- DUT Measurement Understanding

System Hardware

The Z2090B is comprised of Agilent instruments, hardware specifically designed for the Avionics and Radar test environment.

The Z2090B can include traditional Agilent or Third Party rack and stack or card cage (VXI/PXI) instruments. Agilent's Synthetic Instruments that utilize LXI interfaces are also available.

Synthetic Instrument Advantages

Obsolescence Protection

Provides obsolescence protection of automated test systems (ATS) by providing the longest future support life architecture, reducing the lifetime cost of ownership.

Scalability

Morphable modules enable the design of scalable systems, and provide the flexibility to insert technology to accommodate future measurement applications.

LXI Compliance

LXI interface compliance provides computer interface longevity and offers the industry's highest RF/MW performance and smallest footprint for ATS
N8212A 20 GHz performance vector up-converter SSI module.

N8241A Arbitrary waveform generator SI module

L4400 Series LXI Switch and Control Instruments 34410/11A Digital Multi-meters

34980A Multifunction Switch/Measure Mainframe and Modules

N5700 Series System DC Power Supplies

N6700 Low-Profile Modular Power System

System Core

Core Components

System Switching and DUT Interface

Precision System Interface—the proprietary RF path and signal-conditioning unit is a special device, available only with the Z2090B. The Precision System Interface (PSI) provides the system with the following:

- Single connection for multiple measurements

- Protection of instrument input stages from high RF power

- High reliability RF switching

- Boosted signal for Network Analyzer measurements (port 1 or port 2 sides of the PNA)

- "Hot" S22 measurement

- Wide band isolation

- When combined with special software, allows the system to be specified and calibrated at the DUT ports

- Capability to drive external RF switches, allowing additional capability through tailored enhancements

System Core (Continued)

System calibration library and test plan

Standard system calibration and sample test plan:

- Performance automatic de-embedding of the various adapters used while performing the PNA two-port calibration for highest accuracy system calibration

- Easily tailorable via documented library

- System calibration is based on computer s-parameter measurements of paths, permitting a better accuracy at the system test ports

- Single system calibration measurement can be used for various adapter configurations minimizing operator required actions

- System calibration also includes minimization of carrier leakage

- System calibration data is archived

Self-test

Automated self-test procedure with first level diagnostics:

- Requires little operator intervention

- All the HW in the PSI is extensively checked

- Additional tests on the ADTS are performed

- The cabling integrity is checked

- Self-test log files archived (diagnostic messages)
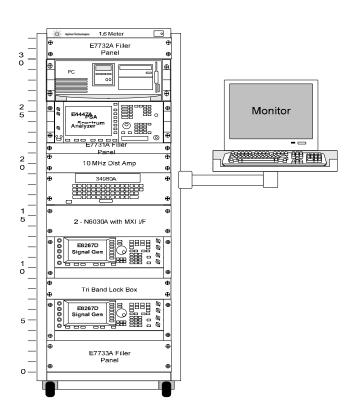
Operator and technician user interface

Consistent interface for most common tasks:

- Includes localization support for most operator tasks

- Pictures can be included with operator instructions

- Allows for multi-user login (i.e. technicians can temporarily gain access to more advanced features)

- Integrated barcode reader support

- Integration with the test executive

Available Standard Test Executives and Programming Environment

- National Instrument Test StandTM , Innovation Technology Inc.'s Virtual RackTM, Agilent Test Exec SL (TxSL) 5.0, and Agilent VEE are available.

- Logging of test results in Excel (.csv) or XML formats

- Rapid integration of third-party components via VBA

- Other standard test executive features

- Many features (sys cal, measurements, self est and tuning) are test executive independent

System Core (Continued)

Industrial grade system cabinet—Provides rugged enclosure for instruments, well designed cooling to increase instrument life, protection for cables and instruments, expansion room, well designed ergonomics and a flexible DUT I/O capability.

Industrial PC—A controller that is supported worldwide, has ample expansion room (PCI and IA slots), a stable operating system and easy upgrade as PC technology evolves.

Flat Screen monitor—Space saving operator interface on a swing arm that can be adjusted for best ergonomic fit.

AC Power Control—Dual AC power cables that support power systems the world over. Emergency off button for operator and facility protection.

DC Power Cable—Scalable Power with master/slave capability, sense circuits and special safety circuits and/or labeling to protect the operator, the DUT and the system.

The system is manufactured by Agilent's high quality manufacturing organization, using processes developed for instrument assembly and test. This ensures that each system is built and tested to rigid standards and significantly reduces any problem of inconsistent test results due to system differences or stability problems.

System Software

The Z2090B software package consists of numerous layers. They are broken down into system software and applications. This software packages brings the customer the key advantages of the platform. Customer specified operating systems, test executives, and test languages are also available and supported.

Software Features

System Software Architecture

- True Platform characteristics—permits user to enhance/add individual capabilities, such as new measurements and new instruments

- Can change GUI without breaking any Agilent system code

- Increase Test Engineer productivity - focus on test development vs. measurement coding

- Test plan allows easy insertion of DUT control commands

- Allows SCPI pass through to preserve programming model for added instruments

- Enforced operator security levels (test engineer, operator, etc.)

- Permits simultaneous multiple user logins

Measurement library

- Automatic correction of path effects in the library, with interpolation when required

- OM objects callable from non-TxSL environments

- PSI paths are controlled via path names and not individual switch numbers

- Automatic calibration offsets applied when required

Warranty

Agilent provides a 1-year return-to-Agilent warranty on custom systems. Warranty extensions and custom repair strategies are available to meet your specific requirements.

Service and Support

Service and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

Our Promise

Our Promise means your Agilent test and measurement equipment will meet its advertised performance and functionality. When you are choosing new equipment, we will help you with product information, including realistic performance specifications and practical recommendations from experienced test engineers. When you use Agilent equipment, we can verify that it works properly, help with product operation, and provide basic measurement assistance for the use of specified capabilities, at no extra cost upon request. Many self-help tools are available.

Your Advantage

Your Advantage means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and onsite education and training, as well as design, system integration, project management, and other professional engineering services.

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For more assistance with your test and measurement needs or to find your local Agilent office go to:

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