

AX518

Integrated 5 Slot AXIe/18 Slot PXI System



The AX518 test system leverages PXI and AXIe to provide high end semiconductor ATE performance in a compact, low-cost, industry standards based form factor. With support for a wide range of digital, analog, and RF instrumentation, the AX518 is perfectly suited for post-silicon validation and characterization, as well as multisite production test of consumer digital and wireless devices. Low latency, high speed PCI/PCIe infrastructure, combined with industry leading settling times, give the AX518 exceptionally fast test times and high parallel test efficiency. The system was designed with an easily interchangeable device loadboard using high density direct AXIe and mixed-signal connections and blind mate PXI RF connections. Manipulator mounts and docking plate compatibility coupled with a full suite of production software tools facilitate smooth deployment into high volume production. The PXI/AXIe foundation of the AX518 provides a unique combination of high end ATE performance with the economics and investment protection that come with widely deployed industry standards based instruments.

- Fully integrated, self-contained benchtop test system based on industry standard PXI and AXIe.
- System can be used for device characterization as well as production testing.
- 5 AXIe slots support Aeroflex digital and device power supply instruments plus a wide range of 3rd party AXIe instrument cards.
- 18 PXI slots support Aeroflex RF instruments and a wide range of 3rd party PXI instrument cards.

- Flexible bidirectional triggering between PXI, AXIe and external instruments for control and synchronization
- Easily interchangeable device load boards access all AXIe instrument signals, PXI instrument channels and blind mate RF connections
- Configurable with up to:
 - 8 modulated RF VNA ports
 - 192 channels of 400 Mbit digital
 - 48 channels of 20 V / 1.2 A power supplies
 - Cage interface
 - 3rd party AXIe and PXI instruments
- Windows® PC-based controller with test environment software:
 - Microsoft® Visual Studio®
 - National Instruments TestStand™
 - Test Evolution Executive



SOFTWARE ENVIRONMENT

System Software

- MVP (Multi-site Virtual Pin) instrument programming
- Standardized instrument APIs in C
- National Instruments TestStand™ for test sequencing and flow control
- Program Development and Debug via Microsoft® Visual Studio®
- OpenExec production interface for datalog, binning and prober/handler control

Instrument Software Tools Include:

- Instrument debug display
- Pinmap editor
- Pattern debugger
- Margin tool
- Shmoo tool
- PXI studio
- IQCreator®

Calibration and Checkers

- Configurable checker load board
- Multi-level diagnostics: i/o connect/functionality /calibration/ verification
- Software notification and lock-out to ensure instrument calibration
- System DMM for instrument DC calibration



SYSTEM HARDWARE

Cage Interface

- Load board power +5 VDC, ±15 VDC
- 32 control bits
- Trigger subsystem
- I2C for expansion

Interchangeable Load Boards

- Standard dimensions 7.125 x 15.375 in. (181 x 391 mm) (H x W)
- VHDM connectors for AXIe signals
- Blind mate connectors for RF signals
- Manual threaded pull down mechanism

Production Interfaces

- Benchtop or engineering stand for lab use
- Mounts for 3rd party manipulators
- Attach points for 3rd party docking plates

SITE PREPARATION

Dimensions

Height:	557 mm	22.7 in.
Depth:	550 mm	21.7 in.
	650 mm	25.6 in. with testhead
	726 mm	28.6 in. with testhead + loadboard
Width:	546 mm	21.5 in.

Weight

Weight:	68 kg	140 lbs. (no instruments)
	82 kg	180 lbs. (typical configuration)

Environmental

Ambient Temperature:	20°C to 30°C
Humidity:	30% to 60% relative humidity

Power Requirements

Tester Chassis: 208-240 VAC / 30 A / 50-60 Hz,
Single Phase

Tester Computer,
Monitor, DMM: 100-240 VAC / 15 A / 50-60 Hz,
Single Phase

System DMM Connections

1. AC Power **IMPORTANT** – verify correct setting for VAC voltage on rear of DMM



2. Control (via USB)
3. Meter connection "To DMM" on bulkhead.

Test Computer Connections

1. AC Power **IMPORTANT** – verify correct setting for VAC voltage on rear of PC



2. Dedicated network connection – via "Intel AMT" connector
3. PCI Express connections–
 - MXIe cable (AXIe) to Port 1 (upper)
 - MXIe cable (PXI) to Port 2 (lower)

AX518 System Wiring

