Electronics Validation and Verification

Board Electronics, Power Electronics, LRU, and System Controller Testing

Reliable Test Solutions for Validation, Verification, and Production:

- Perform parametric and functional test of Printed Circuit Boards
- Test LRUs and various I/O types with integrated signal conditioning and switching
- Characterize power electronics with NI's PXI platform

Board Electronics Test

NI's solutions for board electronics test includes an extensive hardware and software ecosystem to accelerate characterization. Our modular hardware PXI platform has up to 18 slots for a variety of instruments such as oscilloscopes, digital multi-meters, electronic loads, power supplies, signal analyzers, Multifunction DAQ, and Signal Conditioning. The compact form factor and ease of connectivity of instruments reduces your bench/production setup size and facilitates automation. When testing board electronics, we focus on the electrical measurements required to perform parametric and functional tests to determine manufacturing quality and meet key specifications.

Power Electronics Test

NI's comprehensive portfolio of modular instruments in the PXI platform offers a robust solution to streamline test operations by reducing test time and time-to-market. In order to successfully characterize power electronics, our offering combines several PXI instruments such as digital multi meters, switches, source measuring units, power Supplies, oscilloscopes to perform all necessary measurements.

LRU and System Controller Test

NI's VeriStand, PXI platform, and SLSC technology is used to build avionics and environment simulators leveraging technology across the product's life cycle and system integration. System controllers are constantly changing and being repurposed, engineers must develop test systems that embrace requirement changes and empower teams to create agile embedded software HIL test solutions.
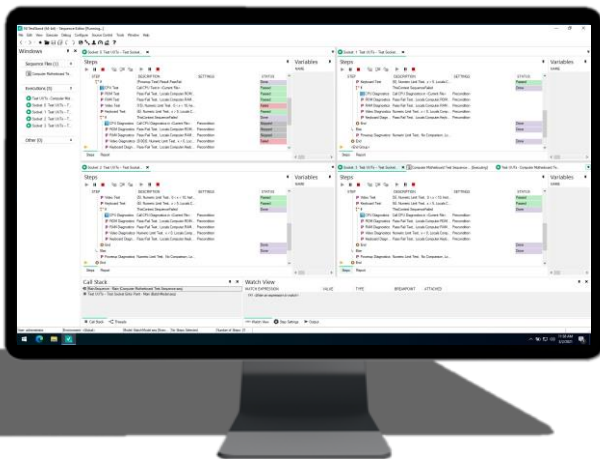
PXI Oscilloscope, SMU, DMM, and MI/O Bundles

Use these bundles to develop systems that scale to multiple channels using a variety of our PXI technology modules.

Bundle Options

Instrument Type	Bundle Name	Part Number
Oscilloscope	Expandable PXI Scope Bundle: 100 MHz Bandwidth, 8ch	867014-01
Oscilloscope	Expandable PXI Scope Bundle: 500 MHz Bandwidth, 2ch	867013-01
Oscilloscope	Expandable PXI Scope Bundle: 1.5 GHz MHz Bandwidth, 4ch	867015-01
Source Measure Units	Expandable PXI SMU Bundle: 1Ch, 60V, 3A, 20W	867110-01
Source Measure Units	Expandable PXI SMU Bundle: 1Ch, 60V, 3A, 40W	867111-01
Source Measure Units	Expandable PXI SMU Bundle:1Ch, 200V, 1A, 20W	867112-01
Multifunction I/O	Expandable PXI MIO Bundle: 80ch AI, 2ch AO, 24ch DIO	867123-03
Multifunction I/O	Expandable PXI MIO Bundle: 32ch AI, 4ch AO, 48ch DIO	867124-03
Digital Multimeter	Expandable PXI bundle based on PXI-4065 Digital Multimeter, 6 1/2-Digit, 300V, 3A	867114-01 (US)
Digital Multimeter	Expandable PXI bundle based on PXIe-4081 Digital Multimeter, 7 1/2-Digit, 1000V, 3A	867116-01 (US)
Power Supplies and Loads	Expandable PXI bundle based on PXIe-4112 PPS, 2 Channels, 60V, 1A	867117-01 (US)

Automate Your Testbed Using Test Stand

Build a Framework for Standardization
Standardize the overall process and use lifecycle management to simplify maintenance overtime.

Automate Your System
Simplify complex task such as sweeping, looping, and synchronization for quicker testing.

Customize for Your Application
Develop in LabVIEW, Python, C/C++, or .NET. Create professional operator interfaces.

Decrease Cost and Speed Up Development Time
Increase throughput with parallel testing, report generation, and databases integration.