

Summit™ Z3-16

Exerciser for PCI Express® 3.0 with SMBus Support



Key Features

- Provides traffic generation, device emulation and compliance testing
- Supports PCI Express 3.0 including:
 - Data rates of 2.5, 5.0 and 8.0 GT/s
 - Link widths of x1 through x16
 - CLKREQ# and SRIS
- Approved by PCI-SIG® as a standard test tool for testing link and transaction layers of PCIe® 3.0
- Supports host emulation when used with Host Emulator Platform
- Emulate root complexes or device endpoints
- Exercise LTSSM state transitions
- Generate controlled error conditions to test error recovery routines
- Supports exercising capabilities for SMBus such as MCTP & NVMe-MI (with software option license)

The Summit Z3-16 is Teledyne LeCroy's fourth generation exerciser (traffic generator), providing support for development and compliance testing of PCIe 3.0 products. The Summit Z3-16 Exerciser, in combination with the Summit T3-16, T3-8 or T34 Protocol Analyzer, provides a complete test and development environment for engineers working on new designs using PCI Express 3.0. The Summit Z3-16 is a critical test and verification tool intended to assist engineers in quickly developing and rapidly improving the reliability of their systems.

Host and Device Emulation

The Summit Z3-16 can emulate PCI Express root complexes or device endpoints, allowing new designs to be tested against known standards. Intuitive software controls blend sophisticated analysis capability with ease-of-use, allowing test suites to be rapidly customized to specific product requirements. Intuitive software controls blend sophisticated analysis capability with ease-of-use, allowing test suites to be rapidly customized to specific product requirements. The powerful scripting language allows for the creation of Transaction Layer Packets (TLPs) and Data Link Layer Packets (DLLPs). ACK's or NAK's can be generated under user control.

Approved by PCI-SIG for PCIe 3.0 Compliance Testing

PCI-SIG has approved the Summit Z3-16 running Teledyne LeCroy's ATS PTC software as a standard compliance test tool for testing of link and transaction layers of the PCIe 3.0 protocol.

Error Recovery Testing

The ability of the Summit Z3-16 to produce a wide variety of programmed traffic allows the user to introduce controlled error conditions. This allows for detailed testing of simple error recovery and complex multiple error conditions, creating more resilient products that perform well, even under less than ideal conditions.



Features	Benefits
Script Level Traffic Generation	Programmability to test PCI Express components with more precision and control
Convert Trace Files into Generation Scripts	Recreate failure scenarios by replaying recorded traffic
Manual Error Injection	Verify fault handling and identify error recovery
Host/End-Point Emulation Support	End-point emulation (and optional host emulation) allow for designed stress testing and pre-testing of end-point and host devices for compliance
Programmable Data Link Layer	Ability to modify flow control, ACK/NAK, and retry behaviors
Flexible/Programmable Transaction Layer	User ability to define arbitrary sequence of transactions, payload generation and conditional repeat of transactions provide users with maximum flexibility
Programmable Reply Timers	Allows testing of ACK latency timeouts and retry mechanisms
Point-and-Click Script Editor	Complex scripts can be created quickly and easily
Programmable Configuration Space	Test user-defined endpoints
Supports CLKREQ# and SRIS Clocking	Test low idle power modes in ASPM and PCI-PM L1 Link states.
Link Training & Status State Machine (LTSSM) Testing	Exercise LTSSM state transitions for verification
Supports PCIe Protocol Suite API	Preserve investment in existing API programs
Supports PCIe Protocol Suite Scripts	Preserve investment in legacy scripts
Supports SMBus/NVMe-MI (with software option license)	Test SMBus drive management on SSDs.



Specifications		
Dimensions	Main Board: 16.8 x 13.3 cm (6.6" x 5.25")	
Connectors	x16 PCIe Edge Connector* 10/100/1000baseT Ethernet (to host PC) USB 2.0 "B" (alternative connection to host PC)	External Trigger IN/OUT 12V DC Power Connector (AC Adapter is included)
*x16 PCIe Edge Connector can be adapted to x8, x4, or x1 slots through use of Card Reducer Edge Adapters		
Power Requirements	100-240 VAC, 47-63 Hz (Universal Input) for AC Adapter (included)	
Environmental Conditions	Operating Range: 0 to 40°C (32 to 104°F), 0 to 90% humidity, non-condensing Storage Range: -10 to 80°C (-4 to 176°F)	
Emulation Capabilities	Device Emulation is a standard feature Host Emulation is available through optional Host Emulator Platform	
Script Memory Size	2 GB for trace generation, device memory emulation, timing and control information	

Ordering Information

Product Description	Product Code
Summit Z3-16 (licensed as a Gen3 x16 Exerciser, supports device emulation and CLKREQ#/SRIS, supports SMBus/NVMe-MI with software license as shown below)	PE070AGA-X
Summit Z3-16 MCTP SMBus/NVMe-MI Option	PE181SUA-X
PCI Express Test Platform with SMBus support (adds host emulation to Summit Z3-16)	PE052UEA-X

Host Machine Minimum Requirements: Windows 10, Windows 8 (x86 and x64), Windows Server 2012 (x64), Windows 7 (x86 and x64), Windows Server 2008R2 (x64); 2GB of RAM (16GB recommended); storage with at least 1GB of free space for installation and additional space for recorded data; display with resolution at least 1024x768 with at least 24-bit color depth; USB3.0 port and/or Gbit Ethernet network interface. For optimal performance, please refer to our recommended configuration in the product documentation.

