TELEDYNE LECROY
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Summit™ M5x Protocol Analyzer/ Jammer
for Gen-Z™

The Summit M5x Gen-Z Protocol Analyzer/Jammer meets the growing industry demand for ever-lower latencies from Memory systems by providing a new class of analysis and test for Gen-Z-based devices and systems. It is also the first protocol analyzer to introduce jamming capabilities for Gen-Z protocol. Specifically, the Summit M5x can inject errors and manipulate traffic between the Gen-Z requester and responder while remaining within normal operating specifications. These features combine to forge a powerful testing tool for Gen-Z validation and development labs, helping to ensure higher Gen-Z product quality and faster times to market.

Key Features

- Platform supports transmission speeds up to 32.0 GT/s

- Monitors and analyzes emerging high-speed protocols built on the Gen-Z Specification

- Supports Gen-Z over PCIe® 4.0 PHY at up to x16 link widths

- Designed to handle PCIe 5.0 PHY at x8 link widths

- Includes new probing methodology that eliminates the need for a traditional "interposer" type probe to interface with systems under test, ideal for server-based systems that utilize horizontal insertion

- Memory buffer can be configured up to 128 GB for users requiring long protocol recordings

- Can be controlled through USB or remotely through 1000-BaseT Ethernet

- Can synchronize with other high-speed protocol Teledyne LeCroy analyzers using CrossSync functionality, which enables time-aligned packet traffic as well as cross triggering from multiple high-speed serial busses for design, debug, and validation across bridges.

The extensive capabilities of the Summit M5x delivers benefits to a wide range of potential users. This includes Gen-Z devices such as Gen-Z Memory Modules (ZMM's) Bridges and Switches, and others who will now benefit from the full suite of analyzer functions, capabilities, and views while better managing costs.

The Summit M5x Gen-Z Protocol Analyzer/ Jammer is fully capable of capturing, decoding, modifying, and describing virtualized systems in a multitude of configurations. The CATC Trace™ View helps users quickly determine how well their devices and systems are behaving in real-world environments.
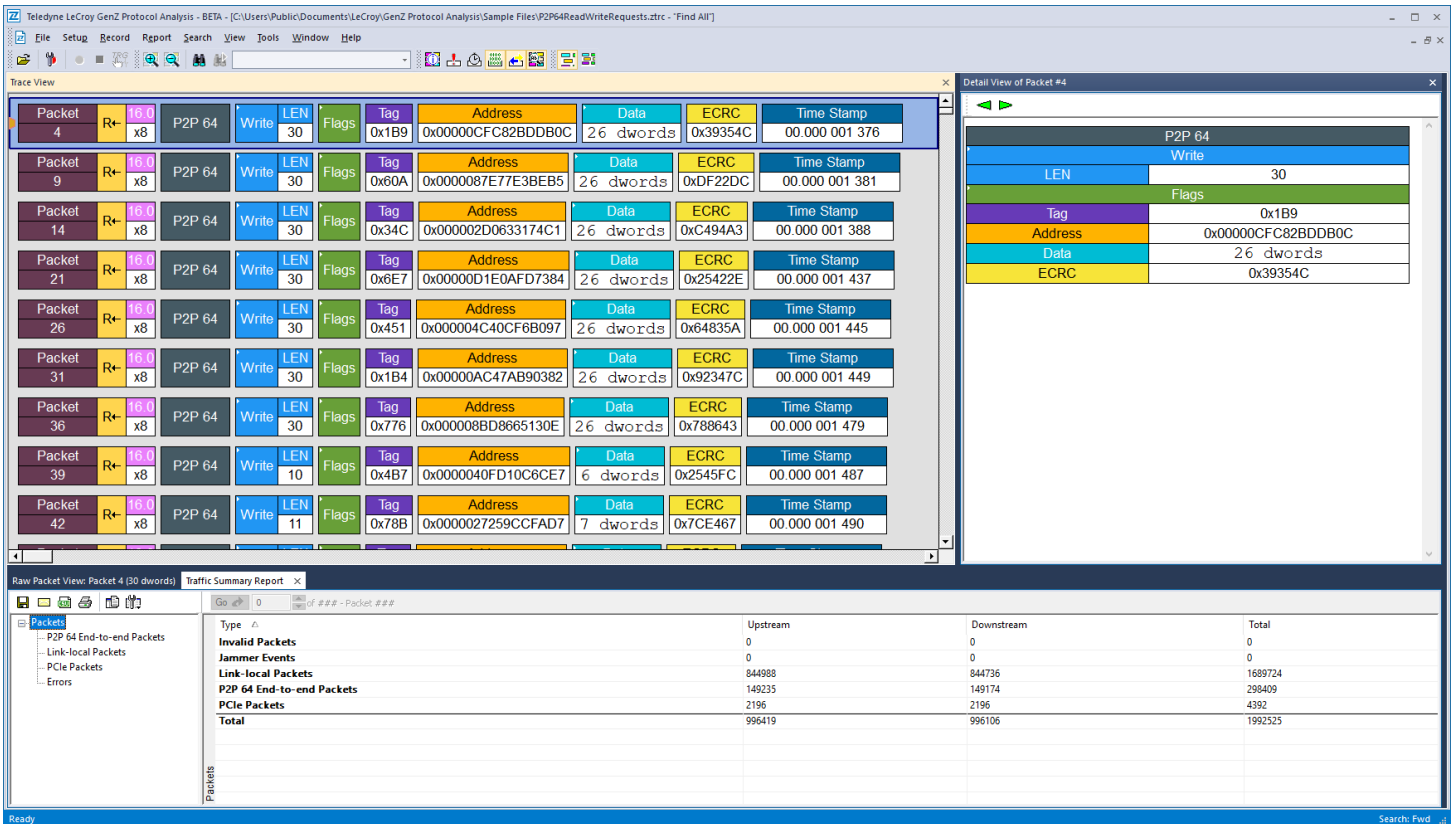
Multi-Protocol Support in a Single Box

The Summit M5x Protocol Analyzer and Jammer can also be licensed as a fully functioning PCI Express Protocol Analyzer and Jammer including the latest in storage-protocol decoding including NVM Express® (NVMe), SATA Express, SCSI Express, and others.
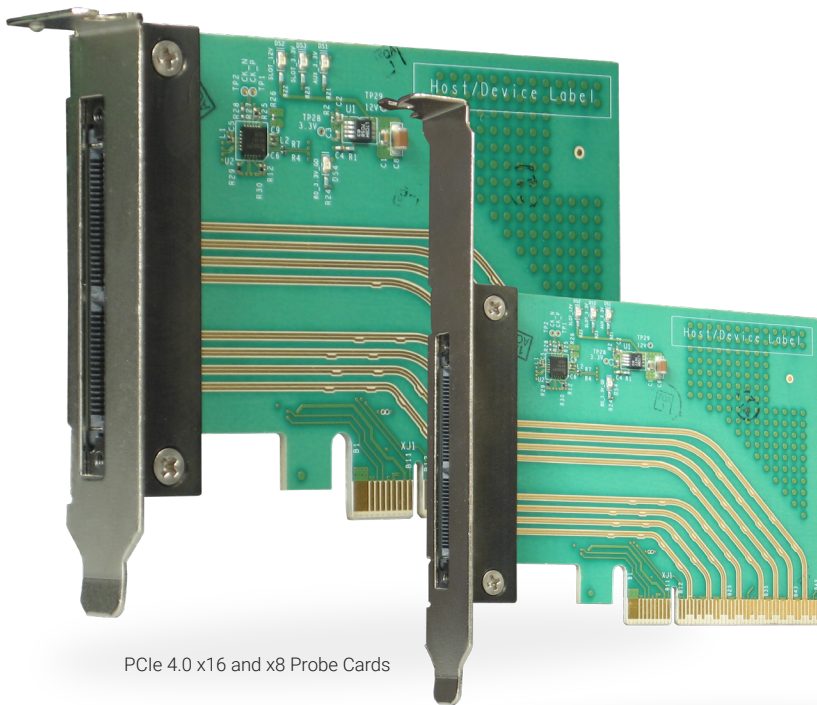
The Summit M5x PCIe 5.0 Protocol Analyzer is a high-end analyzer that offers

important analysis features for new application development. The Summit M5x can record traces at speeds of 2.5, 5.0, 8.0, 16.0 and 32.0 GT/s. Capturing is performed by inserting a probe into the Host System that is then routed to an external test platform. The Device Under Test (DUT) is then plugged into the test platform allowing unfettered access to the DUT. Probes are offered in link widths of x1, x4, x8 and x16. Know that your data is accurate through reliable and complete decodes of upper layer protocols in addition to low level Ordered Sets and Link Training. Setting up and taking a trace is simple to do without the worry of extra plugin platforms or complex networking issues.

The Summit M5x utilizes the CATC Trace™ and other focused views to assist users in analyzing how Gen-Z protocol components work together in diagnosing problems. These various interfaces help find errors fast by using the powerful triggering, filtering and error reporting. View meaningful reports about protocol behavior in captured traffic. These diverse views create a powerful and an intuitive expert software system, embedding detailed knowledge of the protocol hierarchy and intricacies as defined in the protocol specification. Graphical displays have been optimized for fast and easy navigation. Users are alerted as violations are detected at all levels of the protocol layering, and can easily drill down to areas of interest or collapse and hide fields that are not relevant. Protocol data can be viewed in several ways from logical to chronological, and by events unique to Gen-Z.
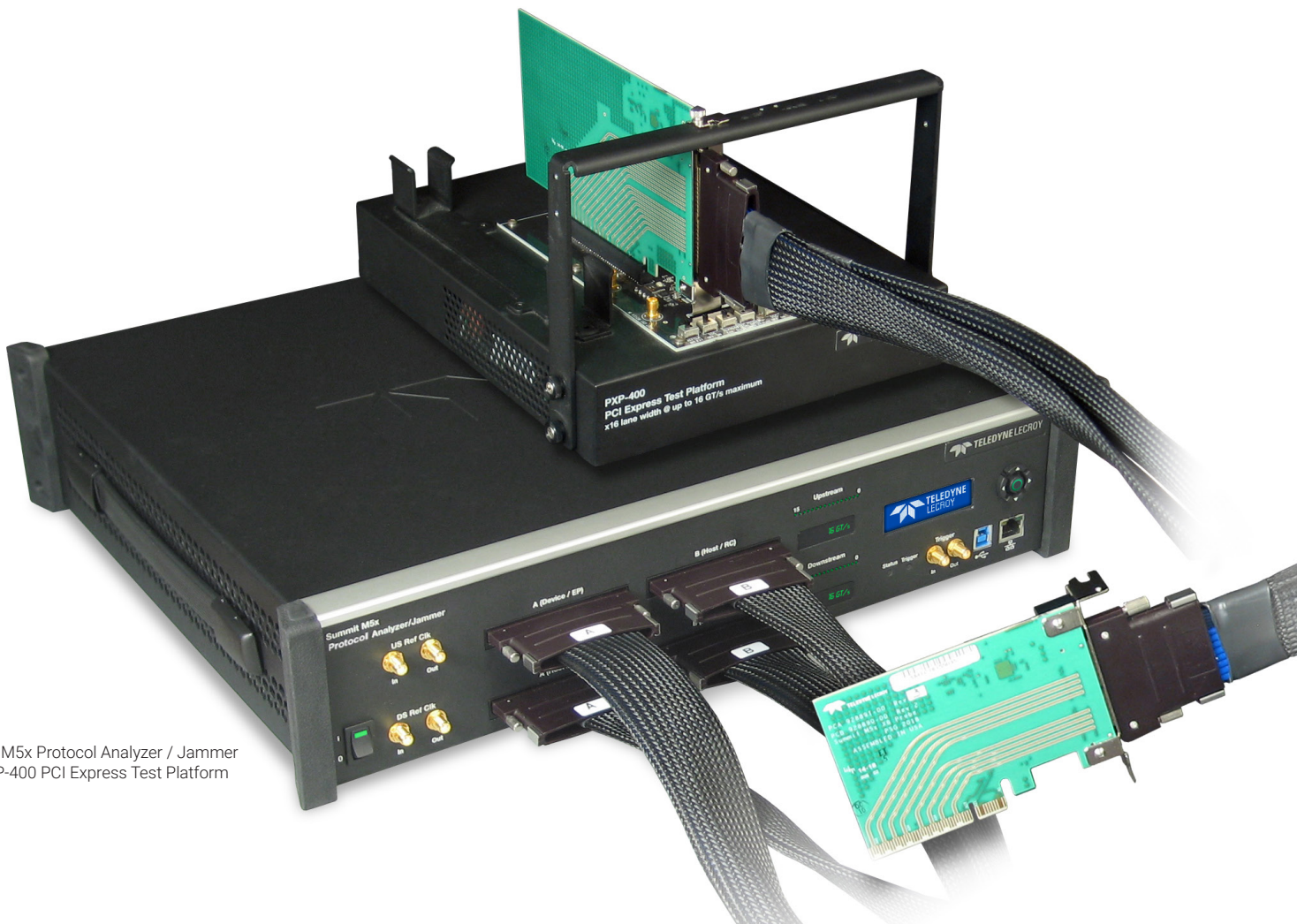
PCIe 4.0 x16 and x8 Probe Cards

All Teledyne LeCroy protocol analyzers feature a hierarchical display of protocol traffic summaries, detailed error reports which allow developers to troubleshoot intricate problems and finish their projects on time. Users of Teledyne LeCroy systems appreciate the rich library of decodes and analysis capabilities that are available on all of Teledyne LeCroy's test tools.

Summit M5x Protocol Analyzer / Jammer
with PXP-400 PCI Express Test Platform

Jammer

The Summit M5x provides the industry's first Gen-Z jamming test capability. The Summit M5x sits between two Gen-Z devices and can accurately change traffic between the two ends in order to test a variety of traffic scenarios for behavioral results. Jamming the transmission between the devices is done during normal operation of the Gen-Z link instead of breaking the spec with undue latencies and retransmissions. The analyzer and jammer combination make this a powerful testing tool for any lab.

Powerful Features

The Summit M5x is up to the challenge by offering decoding, triggering and filtering for the high performance, low-latency Gen-Z protocol.

Specifications	
Host Machine Minimum Requirements	Microsoft Windows® 10, Windows 8, Windows Server, Windows 7, Windows Server 2008R2; 2 GB of RAM; Storage with at least 1 GB of free space for the installation of the software and additional space for recorded data; display with resolution of at least 1024x768 with at least 16-bit color depth; USB 2.0 port and/or 100/1000baseT Ethernet; For optimal performance, please refer to our recommended configuration in the product documentation.
Recording Memory Size	Up to 128 GB
Data Rates Supported	2.5 GT/s, 5.0 GT/s, 8.0 GT/s, 16.0 GT/s and 32.0 GT/s
Ports	Downstream and Upstream reference clock inputs, USB 3.0 Type B connector, Trigger in and out, 1 GB/s ethernet port, Sync in/out port
Display Panel	122x32 Pixel Graphic displays plus two 8 character SPEED indication Displays for (2.5 GT/s, 5.0 GT/s, 8.0 GT/s, 16.0 GT/s and 32.0 GT/s)
LEDs	Power LED, Status LED, Trigger LED, 32 Activity LEDs (2 per lane for 16 lanes)
Dimensions and Weight	432 x 88 x 365 mm (16.99 " x 3.45" x14.35"), 5.4 Kg (12 lb) M5x Slot Probes: 100 x 198 x 170 mm (3.9" x 7.8" x 6.7"), 1.4 Kg (3 lb)
Power Requirements	100-240 VAC, 50-60 Hz, 450W
Environmental	Operating: 0 to 40°C (32 to 104°F) Non-operating: -20 to 80°C (-4 to 176°F) Humidity: 10 to 90% non-condensing

Additional Features

✓ Protocol Hierarchical Display
✓ ZeroTime™ Search

✓ Timing Calculator
✓ Trigger/Filter Control

✓ Expert Triggering
✓ 1 GB/s Ethernet & USB 3.0

Ordering Information

Product Description	Product Code
Summit M5x Gen-Z Protocol Analysis	GZ001SUA-A
Gen-Z Jammer for M5x Option	GZ003SUA-A
Summit M5x (licensed as a Gen4 x4, 8GB memory)	PE184AAA-X

Local sales offices are located throughout the world. Visit our website to find the most convenient location.

1-800-5-LeCroy • teledynelecroy.com

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