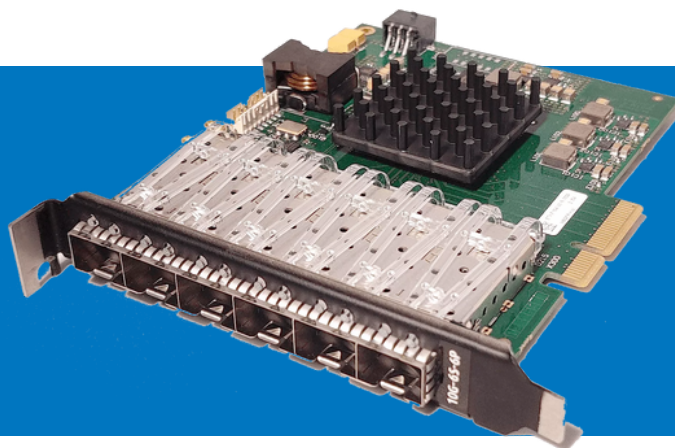


Z10sx Odin

10GE 6-speed, 6-port test module (SFP+)



Key Features

- Test 6 Ethernet speeds simultaneously: 10M, 100M, 1GE, 2.5GE, 5GE, 10GE
- Port speed can be configured individually per port on the module
- Integration with WireShark for additional packet analysis
- Price/performance
- Ease of use

The Z10sx Odin test module has 6 ports and supports testing of 6 speeds up to 10G Ethernet using NRZ modulation.

Based on Xena's advanced architecture, the Z10sx Odin is a powerful and flexible solution that allows independent configuration of speeds on all ports - users can configure 100M on one port, 1G on another port, and so on, providing the highest port/speed flexibility for customers.

The Z10sx Odin can be installed in the 12-slot 4U Xena B720/2400 chassis for multi-module setup. Or it can be deployed in the 1U XenaCompact chassis, making it a quiet and lightweight Ethernet test solution, with an optional flightcase available for safe, easy transportation.

XenaManager software is included free of charge. This robust multi-user management software lets customers generate advanced traffic streams and analyze traffic patterns via its easy-to-use GUI.

Also included is Xena OpenAutomation (XOA), an open-source test automation framework featuring a Python API that runs on any OS. Fast, easy to use and extremely flexible, XOA can quickly create tailored tests, as well as run standardized test methodologies like RFC2544, Y.1564, RFC3918 and RFC2889.

For customers preferring to configure their systems via CLI, the same configurations can be applied using XOA CLI.

PORT LEVEL FEATURES	
Interface category	10G Ethernet
Total number of test ports (software configurable)	6
Interface options	<ul style="list-style-type: none"> • 10M/100M/1000/2500/5000/10G Copper* • 10GBASE-SR / LR / ER or • 1000/2500/5000/10G Direct Attached Cable (DAC) or • 10/100/1000BASE-T** <p>* Requires FS-SFP-10GM-T-30</p> <p>** Requires SFP transceivers with sgmi host interface (Roadmap)</p>
Number of physical interface form factor	6 x SFP+
Port statistics (counter size: 64 bits)	<ul style="list-style-type: none"> • Link state, FCS errors, pauseframes, ARP/PING, error injections, training packet • All traffic: RX and TX Mbit/s, packets/s, packets, bytes • Traffic w/o test payload: RX and TX Mbit/s, packets/s, packets, bytes
Adjustable Inter Frame Gap (IFG)	Configurable from 16 to 56 bytes, default is 20B (12B IFG + 8B preamble)
Transmit line rate adjustment	Ability to adjust the effective line rate by forcing idle gaps equivalent to -1000 ppm (increments of 10 ppm)
ARP/PING	Supported (configurable IP and MAC address per port)
Field upgradeable	System is fully field upgradeable to product releases (FPGA images and software)
Tx disable	Enable/disable of optical laser or copper link
IGMPv2 multicast join/leave	IGMPv2 continuous multicast join, with configurable repeat interval
Histogram statistics (counter size: 64 bits)	Two real-time histograms per port. Each histogram can measure one of RX/TX packet length, IFG, jitter, or Latency distribution for all traffic, a specific stream, or filter
Oscillator characteristics	<ul style="list-style-type: none"> • Initial Accuracy is 3 ppm • Frequency drift over 1st year: ± 3 ppm (over 15 years: ± 15 ppm) • Temperature Stability: ± 20 ppm (Total Stability is ± 35 ppm)
Loopback modes	<ul style="list-style-type: none"> • Off: Traffic flows naturally out of the port • L1 RX-to-TX: Any received packet is bounced back through TX • L2 RX-to-TX: Same as L1 RX-to-TX yet it also swaps MAC SRC<>DST • L3 RX-to-TX: Same as L2 RX-to-TX yet it also swaps IP SRC<>DST • TX(on)-to-RX: Packet goes out of TX but also internally direct to RX • TX(off)-to-RX: Packet goes directly to RX. Port's transmitter is idle (No link sync needed) • Port-to-port: Any RX packet goes out through TX on the neighbor port (L1)

TRANSMIT ENGINES	
Number of transmit streams per port	256 (wire-speed) Each stream can generate millions of traffic flows using field modifiers
Test payload insertion per stream	Wire-speed packet generation with timestamps, sequence numbers, and data integrity signature optionally inserted into each packet.
Stream statistics 1)	TX Mbit/s, packets/s, packets, bytes, FCS error, Pause
Bandwidth profiles	Burst size and density can be specified. Uniform and bursty bandwidth profile streams can be interleaved
Field modifiers	24-bit header field modifiers with inc, dec, or random mode. Each modifier has configurable bitmask, min, max, and step parameters. Up to 5 24-bit modifiers can be applied per stream
Packet length controls	Fixed, random, butterfly, and incrementing packet length distributions. Packet length from 60B to 16384 bytes
Packet payloads (basic)	Repeated user specified 1 to 18B pattern, 8-bit incrementing or decrementing pattern, 16-bit incrementing or decrementing pattern, PRBS-31, Random
Extended payload	Fixed full custom payloads can be generated for each stream with payload sizes up to 16384 bytes
Error generation	Undersize length (56B min) and oversize length (16384 max.) packet lengths, injection of sequence, disorder, payload integrity, and FCS errors
TX packet header support and RX autodecodes	Ethernet, Ethernet II, VLAN, ARP, IPv4, IPv6, UDP, TCP, LLC, SNAP, GTP, ICMP, RTP, RTCP, STP, MPLS, PBB, or fully specified by user
Pause Frames	Responds to incoming pause and PFC (Priority-based Flow Control) frames
Packet scheduling modes	<ul style="list-style-type: none"> • Normal (stream interleaved mode) – standard scheduling mode, precise rates, minor variation in packet inter-frame gap. • Strict Uniform – new scheduling mode, with 100% uniform packet inter-frame gap, minor deviation from configured rates. • Sequential packet scheduling (sequential stream scheduling). Streams are scheduled continuously in sequential order, with configurable number of packets per stream. • Burst. Packets in a stream are organized in bursts. Bursts from active streams form a burst group. The user specifies time from start of one burst group till start of next burst group.

RECEIVE ENGINE	
Number of traceable Rx streams per port	2016 (wire-speed)
Automatic detection of testpayload for received packets	Real-time reporting of statistics and latency, loss, payload integrity, sequence error, and disorder error checking
Jitter measurement	Jitter (Packet Delay Variation) measurements compliant to MEF10 standard with 8ns accuracy. Jitter can be measured on up to 32 streams
Stream statistics	<ul style="list-style-type: none"> • RX Mbit/s, packets/s, packets, bytes. • Loss, payload integrity errors, sequence errors ,disorder errors • Min latency, max latency, average latency • Min jitter, max jitter, average jitter
Latency measurements accuracy	±8ns
Latency measurement resolution	8ns (Latency measurements can calibrate and remove latency from transceiver modules)
Number of filters:	<ul style="list-style-type: none"> • 6 x 64-bit user-definable match-term patterns with mask, and offset • 6 x frame length comparator terms (longer, shorter) • 6 x user-defined filters expressed from AND/OR'ing of the match and length terms
Filter statistics	Per filter: RX Mbit/s, packets/s, packets, bytes

CAPTURE	
Capture criteria	All traffic, stream, FCS errors, filtermatch, or traffic without test payloads
Capture start/stop triggers	Capture start and stop trigger: none, FCS error, filter match
Capture limit per packet	16 – 16384 bytes
Wire-speed capture buffer per port	64 kB
Low speed capture buffer per port (10Mbit/s speed)	4096 packets (anysize)

HW SPECIFICATIONS	
Max. Power	10 W
Weight	0.34 lbs (0.155 kg)
Environmental	<ul style="list-style-type: none">• Operating Temperature: 10 to 35° C• Storage Temperature: -40 to 70° C• Humidity: 8% to 90% non-condensing
Regulatory	FCC (US), CE (Europe)



Z10sx Odin installed in a Compact chassis

Ordering Information

Product Description

- Z10sxc Odin XenaCompact 1U chassis with 10GE 6-speed, 6-port test module (SFP+)
- Z10sx Odin 10GE 6-speed, 6-port test module (SFP+)

Product Code

C-Odin-10G-6S-6P
Odin-10G-6S-6P



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