



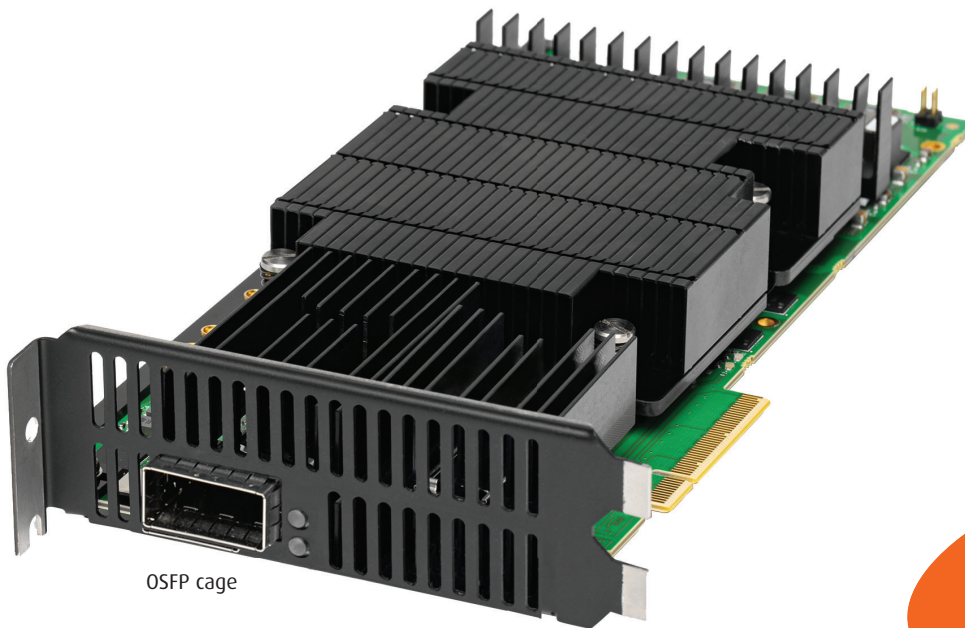
Freya-800G-1S-1P-OSFP

4-speed 800G (112Gbps SerDes) test module

The Freya-800G-1S-1P-OSFP test module supports four Ethernet network speeds - 800GE, 400GE, 200GE and 100GE using 112G SerDes (PAM4 112G).

The module supports OSFP-compatible transceivers and the following speeds: 1x800GE, 2x400GE, 4x200GE and 8x100GE.

Freya-800G-1S-1P-OSFP is a highly versatile solution that provides comprehensive PCS and PMA layer test capabilities facilitates thorough transceiver and PHY testing. This includes the advanced signal integrity view, which provides visual information on the quality of the received signal.



OSFP cage

TOP FEATURES

- 4-speeds: 800GE, 400GE, 200GE, & 100GE
- OSFP cage
- Supports 112G SerDes (PAM4 112G)
- Test with optics and DACs
- Comprehensive PCS & PMA layer test capabilities
- Advanced signal integrity view
- Price/performance
- Ease of use

XENA VALUE PACK

Included with every Freya-800G-1S-1P-OSFP:

- User-friendly software (ValkyrieManager ValkyrieCLI and ValkyrieREST-API)
- Three years' software updates
- Three years' hardware warranty
- Free tech support & training for the product lifetime

Tests 4 speeds:
800GE, 400GE,
200GE & 100GE

PORT LEVEL FEATURES

Interface category	OSFP	800G, 400G, 200G, 100G Ethernet		
Total number of test ports (software configurable)	1x800G, 2x400G, 4x200G and 8x100G Ethernet			
Interface options	OSFP cage		Line Code	Standard
		• 1 x 800GE or • 2 x 400GE or • 4 x 200GE or • 8 x 100GE	PAM4 PAM4 PAM4 PAM4	Consortium** 802.3ck 802.3ck 802.3ck
Power capacity of OSFP cage: 15W (ValkyrieBay) / 25W (ValkyrieCompact).				
** As defined by Ethernet Technology Consortium				
Auto Negotiation and Link Training	IEEE 802.3 Clause 73, Consortium 800G specification, Auto-negotiation IEEE 802.3 Clause 72, Link training			



Forward Error Correction (FEC)	RS-FEC (Reed Solomon) (544,514,t=15), IEEE 802.3 Clause 119, Clause 134
Number of transceiver module cages	1 x OSFP
Port statistics	Link state, FCS errors, 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)
Transmit line clock adjustment	From -400 to 400 ppm in steps of 0.001 ppm (shared across all ports)
Field upgradeable	System is fully field upgradeable to product releases (FPGA images and software)
Tx disable	Enable/disable of optical laser or copper link
Loopback modes	<ul style="list-style-type: none"> L1RX2TX – RX-to-TX, transmit byte-by-byte copy of the incoming packet TXON2RX – TX-to-RX, packet is also transmitted from the port TXOFF2RX – TX-to-RX, port's transmitter is idle
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)

PCS/PMA LAYERS TESTING

Payload Test pattern	PRBS-31Q
Alarms	PRBS pattern loss, link sync loss
Error analysis	Bit-errors: seconds, count, rate
PCS virtual lane configuration	User-defined skew insertion per Tx virtual lane, and user defined virtual lane to SerDes mapping for testing of the Rx PCS virtual lane re-order function
PCS virtual lane statistics	Relative virtual lane skew measurements (up to 2048 bits) Corrected Bit error, PreFEC BER
FEC Total statistics	Total corrected FEC symbols, Total uncorrected FEC symbols, Estimated Pre-FEC BER, Estimated Post-FEC BER, Pre-FEC Error Distribution Graph
Link Flap	Single short or repeatable link down events with ms precision
Error Injection (PMA Layer)	Repeatable error inject periods at PMA layer with ms precision

PHY/TRANSCEIVER ETHERNET TESTING

Programmable Pattern Generator	Ethernet frames with FCS Traffic load: up to 100% Configurable Frame Size distribution and content Transmit and Receive Statistics
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ADVANCED PHY FEATURES

Equalization Controls	Tx Transmit Equalization Controls <ul style="list-style-type: none"> Pre-emphasis Attenuation Post-emphasis Optional Auto-Tune of Rx equalizer/CTLE
Signal Integrity Analysis	<ul style="list-style-type: none"> FEC error correction chart Advanced signal integrity view

HW SPECIFICATIONS

Max. Power	<ul style="list-style-type: none"> TBA
Weight	<ul style="list-style-type: none"> 2.31 lbs (1.05 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	<ul style="list-style-type: none"> FCC (US), CE (Europe)
Notes	<ul style="list-style-type: none"> This module is only supported by the Val-C12-2400 chassis This module requires two slots in the Val-C12-2400 chassis

PRODUCT NUMBER (P/N)

- Freya-800G-1S-1P-OSFP - test module for ValkyrieBay chassis
- C-Freya-800G-1S-1P-OSFP - mounted in ValkyrieCompact chassis

