Fibre Channel Test Suite

for the Metro Expert

The Fibre Channel Test Suite option for the VeEX™ VePAL MX100 Metro Expert allows for the testing of 1.0625 Gbps and 2.125 Gbps point-to-point Fibre Channel networks.

Fibre Channel Test Suite Highlights

- The Fibre Channel Test Suite combined with the MX100's Ethernet and Gigabit Ethernet testing capabilities make it an ideal all-in-one solution for testing Fibre Channel and Ethernet services
- Test 1 Gbps and 2 Gbps Fibre Channel services
- Test FICON services (with FC-2)
- Verify the transport of Fibre Channel frames with buffer-to-buffer credit management
- Measure BER, frame loss, and round trip delay across a point-to-point Fibre Channel link

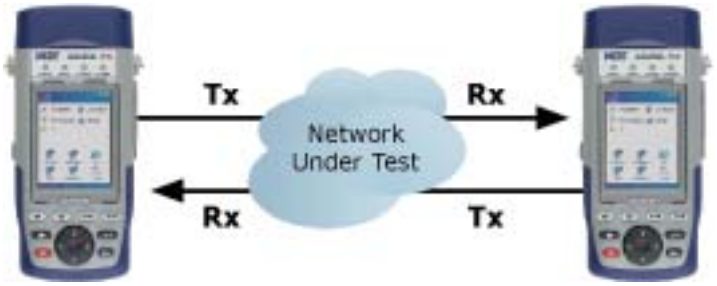
Key Features

- 1.0625 Gbps and 2.125 Gbps Speeds
- Point-to-Point Topology Testing
- FC-1 and FC-2 BERT
- Flow Control Support; configurable buffer-to-buffer credits
- FC-2 Frame Header configuration
- Primitive Sequence Protocol support; link initialization, link reset, link failure
- Traffic generation from 0.01% to 100%
- Frame Length configuration up to 2148 bytes
- Traffic shaping; constant, ramp, and burst profiles
- FC-2 Smart Loop mode

Applications

Point-to-Point Testing

Verifying the transport of Fibre Channel frames across a point-to-point Fibre Channel topology is the key application of the Fibre Channel test suite. Both MX100's with the Fibre Channel test suite are acting as N_ports; matching number of buffer-to-buffer credits are configured on each MX100.



Specifications

Interfaces

Single 1000Base-X SFP port, LC Connector

Tri-rate 1000Base-SX, 850 nm SFP (1.0625, 2.125, and 1.25 Gbps)

Tri-rate 1000Base-LX, 1310 nm SFP (1.0625, 2.125, and 1.25 Gbps)

Fibre Channel Speeds

1.0625 and 2.125 Gbps

Modes of Operation

Terminated

Loopback

Fibre Channel Topology

Point-to-Point

Primitive Sequence Protocols

Link Protocols: Link initialization, link rest, link failure

Flow Control

Buffer-to-Buffer Credit Configuration; 1-65535

Buffer-to-buffer credit and RR_RDY counters

RR_RDY injection

Loopback Mode

FC-2 (Layer 2): swaps the destination and source IDs (D_ID and S_ID)

Traffic Generation

FC-1 (with SOF and EOF frame delimiters) and FC-2 Frames

Class 3 Service Frames

Traffic Shaping: constant, ramp, burst

FC-2 Frame Header Configuration

Frame Length Configuration; 2148 bytes maximum

Optional VeEx signature field for frame loss count and round trip delay measurements

Bit Error Rate Testing

NCITS-TR-25-1999 Patterns: CRPAT, CSPAT, CJTPA

PRBS Patterns: 2^31 -1, 2^23 -1, 2^15 -1, 2^11 -1, normal and inverted selections

All 1's, All 0's, and user defined patterns

Error Injection: Bit and CRC

Key Measurements

Error Measurements: Bit, CRC, symbol

Alarm Detection: LOS, Link down, pattern loss

Traffic Statistics: Bandwidth utilization, data rate, frame count, byte count, frame size distribution, buffer-to-buffer credit count, RR_RDY count, frame loss count and round trip delay (with the optional VeEX™ signature field enabled)

Ordering Information

499-05-034	Fibre Channel Test Suite; 1.0625 Gbps and 2.125 Gbps option
301-01-001G	850 nm Tri-rate SFP
301-01-002G	1310 nm Tri-rate SFP

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