The DTM-100G2 is a single-slot 100G coherent transponder module for Ciena’s Z-Series Packet-Optical Platform. The DTM-100G2 supports pluggable CFP optics on both the line side and client side for optimal deployment flexibility. Coherent grey optic options are available for the DWDM network interface, while the client interface provides support for short, medium, long, and extended-reach optics.

The DTM-100G complements existing Z-Series components, including the LME-10G10 muxponder module, the PSW-100G packet switching and transport module, and the LAD and WSS ROADM modules. The Z-Series and DTM-100G2 modules allow operators to increase optical network capacity for aggregated wavelength and packet services while facilitating the convergence of aggregation and transport at Layers 0, 1, and 2 to lower costs and simplify the transition to 100G.

Applications

- Transport for 100GbE as a service to customers
- Overcoming fiber exhaust issues with a tenfold increase in DWDM network capacity
- Interconnecting PSW-100G modules within the network via 100GbE to overcome Nx10GE LAG limitations

Features and Benefits

- Enhances network capacity and scalability by allowing operators to offer high-density 100G transport for aggregated wavelength and packet services
- Supports pluggable CFP optics on both the line-side and client-side interfaces for optimal deployment flexibility
- Simplifies optical transport by mitigating the need for external dispersion compensation through integrated electronic compensation for CD and PMD
- Provides investment protection with the ability to operate in any of the Z22, Z33, and Z77 platforms
- Supported by Ciena’s Blue Planet to simplify multi-layer network management and operations
- Provides 1+1 optical protection using the Optical Protection Switch (OPS)
Key Features

- Ability to transport 100G services
- Higher network capacity due to greater spectral efficiency of 100G vs. 40G or 10G
- Supports latency measurement on OTN line-side interface
- Flexible, pluggable client optics (CFP)
- Ability to leverage the hitless upgrade capabilities of the Z-Series platforms
- 1+1 optical protection using OPS module

Technical Information

System Requirements
Any Z-Series chassis: Z22, Z33, Z77

Functionality
I100G transponder
1+1 optical protection using OPS

Interfaces
Line-side CFP DWDM optics
- Coherent detection
- Dual-Polarization, Quadrature Phase Shift Keying (DP-QPSK) modulation
- Tunable with 50GHz spacing, 191.35 to 196.10 THz
- 15.0 dB minimum OSNR (EOL, 0.1nm RBW, with FEC)
- Soft-Decision FEC (SD-FEC); Hard-Decision FEC: GFEC and High Gain FEC
- Chromatic Dispersion (CD) - +/- 22,000 ps/nm (for 1dB OSNR penalty)
- Polarization Mode Dispersion (PMD) - DGD tolerance of 50 ps (for 1dB OSNR penalty)

Client-side CFP optics
- 100GBase-SR10 (100m, 850 nm, MMF)
- 100GBase-LR4 (10km, 1310nm, SMF)
- 100GBase-ER4 (40km, 1310nm, SMF)
- SR10, LR4, and ER4 CFPs can also be used for line side interfaces
- G.975 Generic Forward Error Correction (GFEC)

Client services
- 100GbE
- OTU4

Management
Supported by Planet Operate
- A-to-Z provisioning
- End-to-end and OAM (independent of topology/packet/OTN network mix)
- Guaranteed SLAs (provisioning and conformance verification)

DCN connectivity
SNMP v2
CLI, TL1

Physical
Module dimensions
- Depth: 11.6” (295 mm)
- Width: 1.2” (30.5 mm)
- Height: 13.8” (350 mm)
Weight: 8.5 lbs (3.9 kg)

Power
Dual -48 VDC power feeds to module slots
Power consumption: 95 watts nominal as measured with DTM-100G2 card plus line side coherent CFP and client side LR4 CFP

Environmental
Operating temperature
- Z77: 0° to 40° C
- Z33, Z22: 0° to 50° C

5% to 85% operating relative humidity
(non-condensing)
13,000 ft (4,000 m) altitude

Compliance/Safety
UL/CSA Listed
CE-Marked: EN 60950, EN 55022, EN 61000, ETSI EN 300 386 V.1.3.3
CB Scheme Certified 60950
FCC, Subpart B, Part 15, Class A, GR-1089 RoHS Compliant

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