O-SERIES

TMX-2200
200G Transponder and Muxponder

The DZS O-Series TMX-2200 is an ideal DWDM transport solution for 100 GbE or OTU4 services. It interfaces to standard 100G SR4 or LR4 client optics, and incorporates a CFP2-DCO pluggable line interface with a software programmable DWDM modulation format that can operate in 100G DP-QPSK or 200G DP-16QAM mode. Up to two 100G client services can be transported over a single DWDM wavelength with optional physical layer encryption. It provides full client- and line-side performance monitoring for clear service demarcation, fault localization, and SLA assurance.

Features

- Singe-slot OMS card
- Up to 2.6 Tb/s capacity in a single OMS-7190 shelf
- Physical layer encryption*

Line Interface

- CFP2-DCO
- 100G DP-QPSK or 200G DP-16QAM
- Coherent, fully-tunable
- SDFEC or HGFEC*
- Performance monitoring

Client Interface

- Two QSFP28
- 100 GbE and OTU4
- SR4 and LR4
- RMON and OTU4 performance monitoring

* supported in future software release

Overview

The TMX-2200 provides efficient transponding and DWDM transport for 100 GbE and/or OTU4 client services. It incorporates a pluggable CFP2-DCO with a software programmable modulation format, and fully-integrated coherent transceiver, including DSP. The line signal can be set to SDFEC for the longest possible reach, or staircase HGFEC for interoperability. It can be used for point-to-point DWDM links of any distance with up to 26 dB link budget, or provide all-optical transmission over 1000 km or more in amplified systems. Integrated physical layer encryption capabilities are also available*.

The two QSFP28 client interfaces allow two 100G client signals to be muxponded onto a single 200G DWDM wavelength, or a single 100G client signal to be transponded onto a single 100G DWDM wavelength. The client interface supports 100 GbE and/or G.709 OTU4 protocols using a QSFP28 SR4 or LR4.
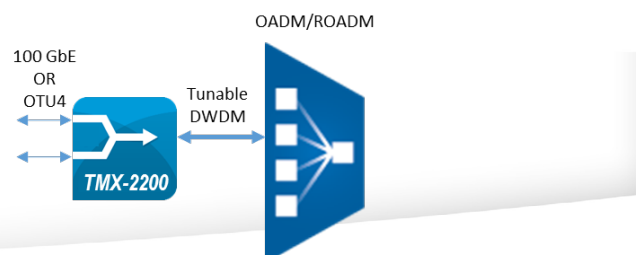
Application

The TMX-2200 is compatible with the ITU flexible grid, and 100 GHz and 50 GHz fixed grids, allowing it to be used with existing DWDM OADM and/or ROADM infrastructure. As a Layer 1 networking device, it transports client services at the full 100G data rate with deterministic low latency. The software programmable line interface allows for a trade-off between reach and spectral efficiency, depending on the OSNR of a given wavelength circuit. Where high spectral efficiency is desired for very long wavelength circuits, the reach can be extended to any distance using the RGN-2200 configured as a bi-directional regenerator for 100G DP-QPSK or 200G DP-16QAM wavelengths.

Specifications

Parameter	Value
Card type	OMS, single slot
Line interface	CFP2-DCO
Client interface	2 QSFP28 SR4/LR4
Line modulation (programmable)	100G DP-QPSK, 200G DP-16QAM
Client protocols	100 GbE, OTU4
Performance monitoring	RMON, OTU4
OSNR sensitivity	12.5 dB (100G) 20.5 dB (200G)
FEC	GFEC, HGFEC*, SDFEC
Encryption	ODU4 AES 256*
Line PMD tolerance	30 ps (100G) 15 ps (200G)

Parameter	Value
CD tolerance	40 ns/nm (100G) 20 ns/nm (200G)
Line transmit power	+1 dBm
Line receiver range	-18 to 0 dBm
Line receiver sensitivity	-29 dBm (100G) -22 dBm (200G)
Channel spacing	50 or 100 GHz, Flexible grid*
Tuning range	191.25 to 196.1 GHz, Flexible grid*
Power consumption	45 Watts maximum
Operating temperature	-5°C to 50°C (23°F to 122°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)

* supported in future software release

Ordering Information

Model Number	Part Number	Description
TMX-2200	1029-3100	TMX-2200 200G Transponder and Muxponder

Distribution partner

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