Proximion

DEM
Chromatic Dispersion Emulator

Proximion's compact rack mountable module is designed to emulate tens of thousands of picoseconds per nanometer of chromatic dispersion in a space saving cascadable unit. The DEM offers a continuous filter over a customer selected bandwidth with less than 3 dB insertion loss and a high input power durability. No compromise is made on parameters important in a test and evaluation environment. Based on Proximion's proprietary continuous band technology this emulator has negligible latency and virtually no non-linear effects making it perfectly suited for applications such as evaluation of coherent systems.

Proximion's DEM is the perfect tool for enhancing test and evaluation results in Direct Detection as well as Coherent systems. By cascading several DEM's, it is possible to create chromatic dispersion corresponding to a turn around the globe.

Key Features

- Continuous Dispersion over selected range

- Cascadable to 250,000 ps/nm

- C-band or L-band

- Flat or slope matched

- Ultra-low loss

- No latency

- No non-linear effects

- Rack mountable

Applications

- Coherent system tests

- Dispersion emulation for test and measurements

Proximion

Proximion AB
Skalholtsgatan 10, SE-164 40 Kista
Sweden

Phone: +46 8 750 48 88
info@proximion.com
www.proximion.com

January 2024
106393-A

DEM
Chromatic Dispersion Emulator

Optical specifications	DEM
Fiber Types	G.652 or flat
Compensation lengths	10,000 ps/nm per module
Bandwidth	> 450 GHz
Channel spacing	N/A
Insertion loss	~ 3.0 dB [1]

1. Includes circulator double pass

Mechanical specifications	DEM
Operating temperature	–5 to + 70 °C
Storage temperature	-40 to +85 °C
Box Dimensions	197 x 212 x 22.5 mm
Dimensions, FBG casing	ø 160 (175) x 16 mm

Ultra-high dispersion

The Proximion DEM offer unprecedented dispersion while maintaining PMD characteristics on par with DCF and ultralow Phase Ripple. Cascadability up to 250,000 ps/nm provides a module perfectly suited for test of Ultra Long Haul Coherent networks

Ultra-low loss

Proximion's FBG based DCMs only have a fraction of the total loss compared to DCF equivalents. The low loss enables a higher degree of freedom when optimizing a system with respect to reach, performance and cost

No latency

Dispersion compensation and Emulation products from Proximion have negligible latency. The latency is in the order of nanoseconds compared to microseconds in DCF based solutions.

Continuous compensation

Proximion's continuous products offer seamless operation over the band in question, hence providing channel width and modulation format independence. This makes Proximion's continuous products the tool of choice for tests and measurements..
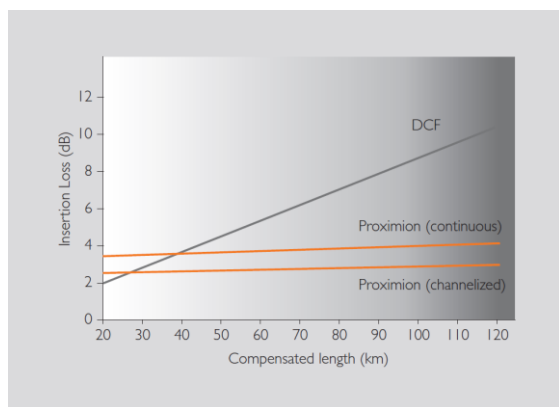
Perfect slope matching

Proximion's FBG based DCMs can be designed to perfectly mimic the dispersion and dispersion slope characteristic of any given fiber type.

No non-linear effects

Proximion's products tolerate high optical power without suffering from penalties caused by non-linear effects. Non-linear effects are not introduced even at the highest power level present throughout any traditional network. The products are thereby future proof for introduction of higher bit rate and channel count, an advantage over traditional DCF based solutions.

Ultra-low loss

No latency