

Dual Dynamic Gain Equalizer (DGE)

An Integrated Photonics-based solution designed for ultimate spectral precision.

In networks with ROADM nodes, managing gain tilt and gain ripple is critical. That's where DGE makes the difference: flattening optical amplifier spectra and compensating wavelength-dependent tilts with dynamic precision.

The module consists of two high-order reconfigurable filters realized in the PhotonPath's low-loss proprietary platform. They adapt in real-time through internal electro-optical actuators, minimizing flatness errors.

This gain flattening allows a single amplifier to operate over a wide range where typically three or four amplifier nodes would be required.



Reach out to our sales team to have more information on our Dual Dynamic Gain Equalizer

Key Benefits

- Two Dynamic Equalizers, independently reconfigurable, in a single compact module
- Tilt Control Feature
- A key differentiating building block for low-noise Optical Amplifiers with a wide operational range
- 1000+ spectral profiles stored for each DGE
- Possibility to integrate additional components within the same photonic chip

Specifications

Operational Bandwidth	1529 -1560 nm
Dimensions	92 x 72.2 x 12.2 mm
Flatness Error	± 0.5 dB
Return Loss	> 30 dB
Excess Loss	4 dB
Power Consumption	6 W

Dynamic Gain Equalizers

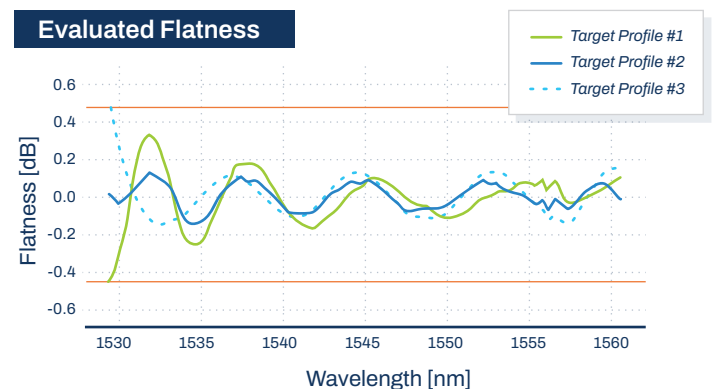
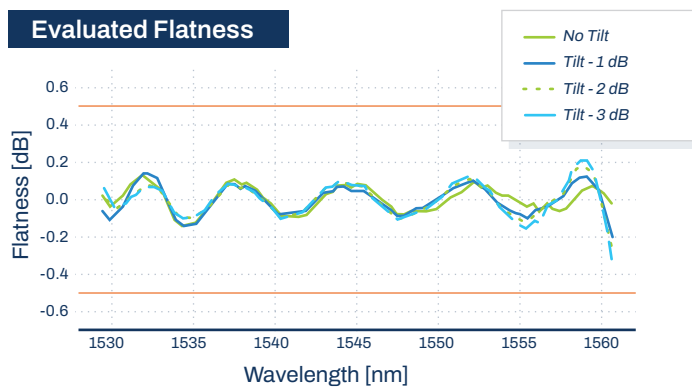
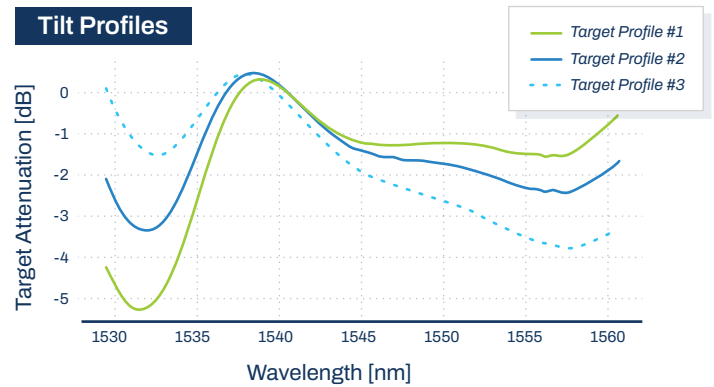
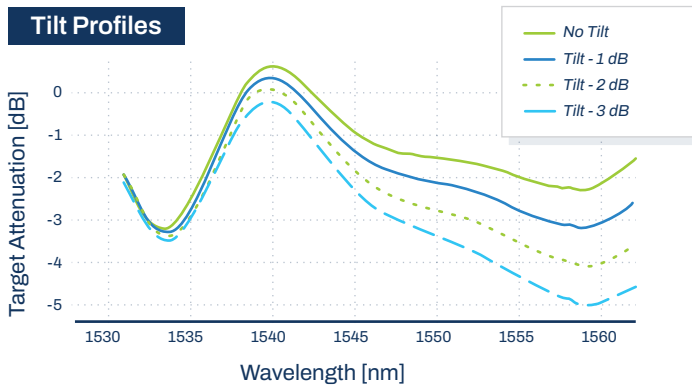
Dynamic Gain Equalizers play a crucial role in ensuring efficient, reliable, and scalable operation in next-generation optical networks. By providing real-time gain adjustment, they help maintain optimal performance across all channels, support dynamic network configurations, and reduce the need for complex signal processing, thereby enabling the use of auto-reconfigurable optical communication systems.

EDFA equalization profiles

The key differentiation of PhotonPath's DGE is being able to compensate for every point of an EDFA operational mask while keeping the Noise Figure (NF) low. PhotonPath's DGE is not a waveblocker; it offers a continuous, smooth and configurable transfer function suited for EDFA operations.

Tilt compensation profiles

The DGE can operate as a dynamic compensator of linear tilts of ± 10 dB. These tilted spectral profiles are induced by diverse effects such as ISRS (Inter-channel Stimulated Raman Scattering) and wavelength-dependent fiber loss.



Contact Information

For additional information and evaluation sample orders, please contact:

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