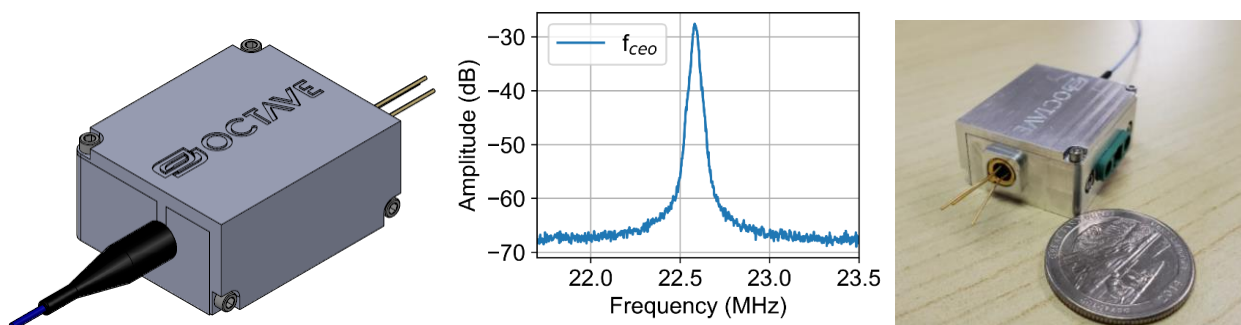


Comb Offset Stabilization Module (COSMO)

Summary: The Octave Photonics Comb Offset Stabilization Module (COSMO) provides a compact and convenient solution for the f - $2f$ self-referencing of a laser frequency comb. Additionally, the COSMO allows the carrier-envelope-offset frequency (f_{CEO}) to be detected with exceptionally low pulse energies, enabling lower power consumption or higher repetition rates.

Usage: The COSMO connects to the laser with a fiber connector (FC/APC or similar) and provides an electrical output that can be connected to the comb stabilization electronics. The pulse must be compressed at the entrance to the COSMO box, so appropriate length of fiber and/or dispersion-compensating fiber must be used. Additionally, control over the input pulse energy allows the signal-to-noise ratio of the f_{CEO} signal to be optimized.



Specification*	COSMO
Input pulse wavelength	~1560 nm
Minimum input pulse energy	>200 pJ
Input fiber	PM1550 fiber
Input connector	FC/APC
Output	Electrical connector
Dimensions (excluding connectors)	40x25x15 mm
Thermoelectric cooler (TEC)	Optional
Maximum average power (with TEC)	<3 Watts
Operating temperature (with TEC)	0 to 40 C
Signal-to-noise of CEO peak	>35 dB**

*Preliminary specifications are subject to change. Contact Octave Photonics for final specifications.

**Observed signal-to-noise ratio depends on laser stability. >35 dB assumes a low-noise laser system.