

Mid-IR Comb

Mid-Infrared Optical Frequency Comb

MenloSystems



World-leading optical frequency comb technology is now available in the mid-infrared region. Taking advantage of Menlo Systems' proprietary figure 9[®] technology for its oscillator, the Mid-IR Comb is a robust and reliable optical synthesizer whose mode frequencies are completely defined by its repetition rate only, as the carrier envelope offset frequency vanishes in the difference frequency generation process. For different user applications, the system design gives access either to the wavelength range around 3.2 μm or 7 μm . The turn-key Mid-IR Comb is an enabling tool for high accuracy spectroscopy in these important fingerprint regions.

KEY SPECIFICATIONS

- Comb Spacing 100 MHz or 250 MHz
- Accuracy 10^{-14} in 100 s
- Spectral Range 3.1-3.4 μm and 6.5-7.8 μm
- High Output Power of up to 120 mW @ 3.1-3.4 μm
- Spectral Bandwidth of 200 nm

APPLICATIONS

- Fourier-Transform Spectroscopy in the Mid-IR
- Spectroscopy in the "Fingerprint Region" of Molecular Science
- Chemical and Biomolecular Sensing of Molecules
- Fast and Precise Detection of Atmospheric Gases

FEATURES

- Carrier-Envelope Offset Free Frequency Comb
- Femtosecond Laser Pulses in the Mid-Infrared
- Repetition Rate can be Phase Locked

OPTIONS

- **EOM-PHASE Electro-Optic Phase Modulator**
Intracavity EOM for high-performance phase locking to an optical reference

PERFORMANCE DATA FOR 3.2 MICRON COMB

Center wavelength

3200 nm

Spectral width

>200 nm

Repetition rate

250 MHz

Optical output power

120 mW



