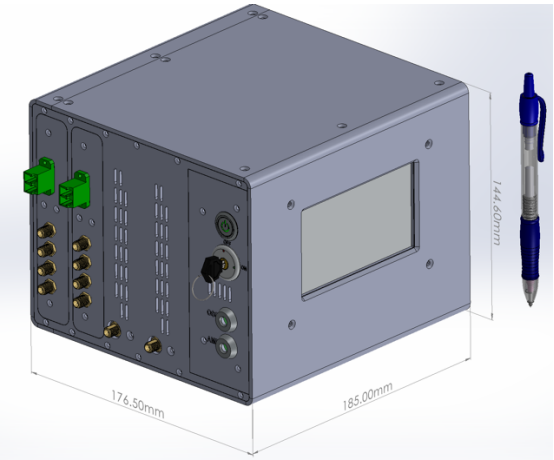
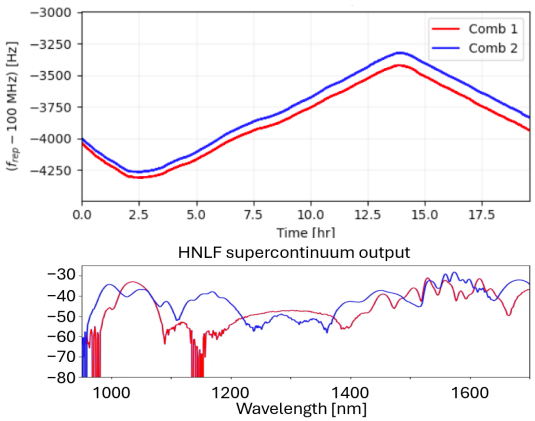
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Saguaro

Compact Dual Frequency Comb System





The Chi3 Saguaro is a low-noise, compact dual frequency comb system providing two stabilized, repetition-rate-matched frequency combs at 1.55 µm, forming a turnkey tool for dual-comb spectroscopy. Its low phase noise and high mutual coherence enable high signal-to-noise ratio measurements and superior spectral resolution. The system is built on a flexible architecture that can be extended from the ultraviolet (UV) to the mid-infrared (mid-IR) spectral range, supporting a broad range of scientific and industrial applications. Users can leverage the dual-branch outputs to drive nonlinear frequency conversion—extending into the mid-IR or up-converting into the UV. A portable dual-comb spectrometer version is also under development to enable field-deployable, real-time sensing applications.

Specification	*Performance*
Dimensions (W x L x H)	17.4 cm x 18.5 cm x 15 cm
Repetition rate	100 MHz standard, customizable from 250 MHz to 20 MHz available
Center wavelength	Wavelength: 1550 nm (standard), customizable mid-IR to UV
Optical output	Fiber output (LC/APC PM1550) (x2)
Output power	120 mW × 2 (standard); customizable 100 mW – 3 W @ 1550 nm
Electronic input	SMA: Current servo, Fast/Slow PZT
Electronic output	SMA: f_{ceo}
Control interface	Touchscreen (RS232 in development)