

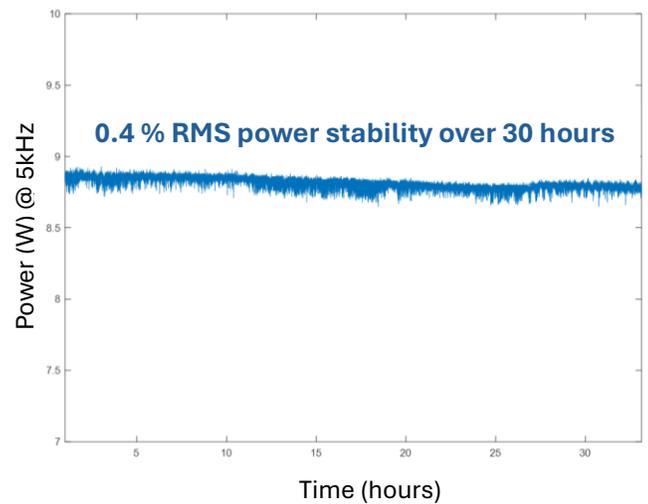
RAEA 2.0



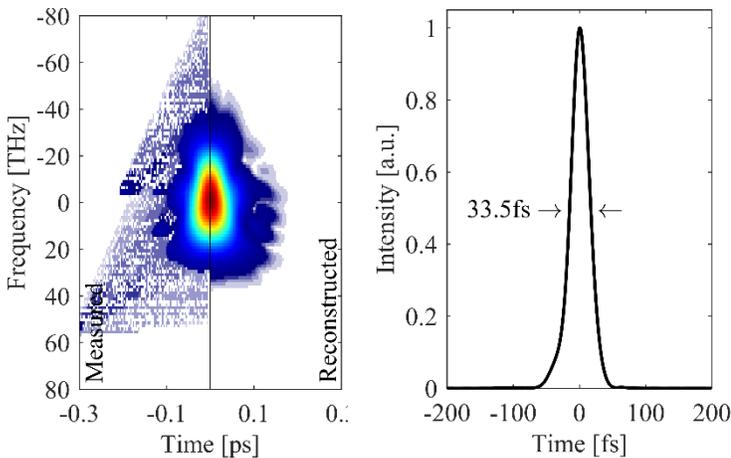
KMLabs' **RAEA™** unprecedented single stage 20W high-power Ti:sapphire amplifier

-Greatly reduced data acquisition times using millijoule pulses at high 5-30 kHz rep rates!

The RAEA 2.0 is the **highest performance ultrafast high-power Ti:sapphire laser system on the market**. Using KMLabs' unique architecture, this single-stage amplifier system can generate up to **20 W output power**, with unprecedented flexibility. Using 4th-generation Permacool™ cryogenic cooling, the RAEA can uniquely vary the pulse energy and repetition-rate, with minimal change in output beam characteristics or average power. This allows users to use the optimal pulse energies for their applications, to greatly reduce data acquisition times. The RAEA pulse duration, characterized using rigorous FROG techniques, is 35fs, with options for shorter pulses. The RAEA is also optimized for driving bright, ultrastable, high-order harmonic generation at 10-50 nm, achieving record flux and stability (see KMLabs' XUUS product).



FROG trace at 10 kHz



Specifications

User Tunable Rep Rate	5-30 kHz
Average Power	Up to 20 W standard
Pulse Energy	3mJ @ 5 kHz
	2 mJ @ 10 kHz
	0.6 mJ @ 25 kHz
Pulse Width	35 fs
Spatial Mode	Near TEM ₀₀ , M ² < 1.25
Power Stability	< 1% RMS over 12 hrs
Dimensions (mm)	1800 L x 950 W x 620 H

RAEA 2.0



Applications

- High-harmonic generation
- Attosecond science
- Femtochemistry
- THz generation

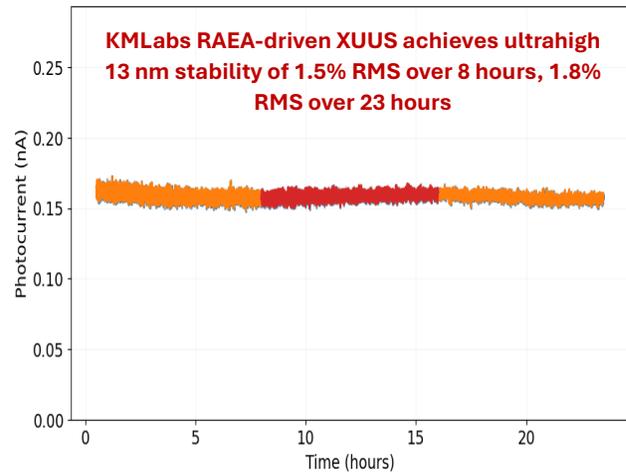
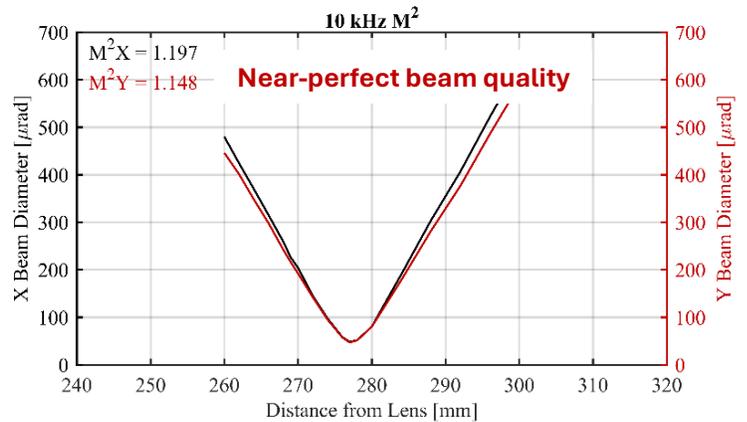
Options

- Short Pulses: 25 - 35fs
- Optional Pulse Shaper Module
- Pulse Picker



Laser Focus World
Innovation Award
Platinum Winner

The RAEA 2.0 is designed using an ultrastable, flexible, and modular approach, expressly for heavy use up to 24/7 – a **facility class** ultrafast laser system. KMLabs has also supplied 2- and 3-stage Ti:sapphire systems delivering TW peak power at kHz repetition-rates and average power exceeding 30W. The ultimate performance limits for Ti:sapphire laser systems technology have yet to be fully explored, so if you have extraordinary requirements, we welcome a challenge. Contact us!



References

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