

Laserse 343nm 15W <500fs Ultraviolet Femtosecond Laser



343nm 15W 500fs femtosecond laser adopts our own solid-state amplification solution. The standardized version of the laser can provide an average power of 30W, pulse duration less than 500fs, and a single pulse energy of 30 μ J at maximum, which can achieve 500kHz-1MHz. The repetition frequency is continuously adjustable, the power fluctuation is less than or equal to 1% in 24 hours, it supports external harmonic generator, and outputs 343nm ultraviolet wavelength light. The whole system comes standard with burst function, supports 1-10 burst outputs.

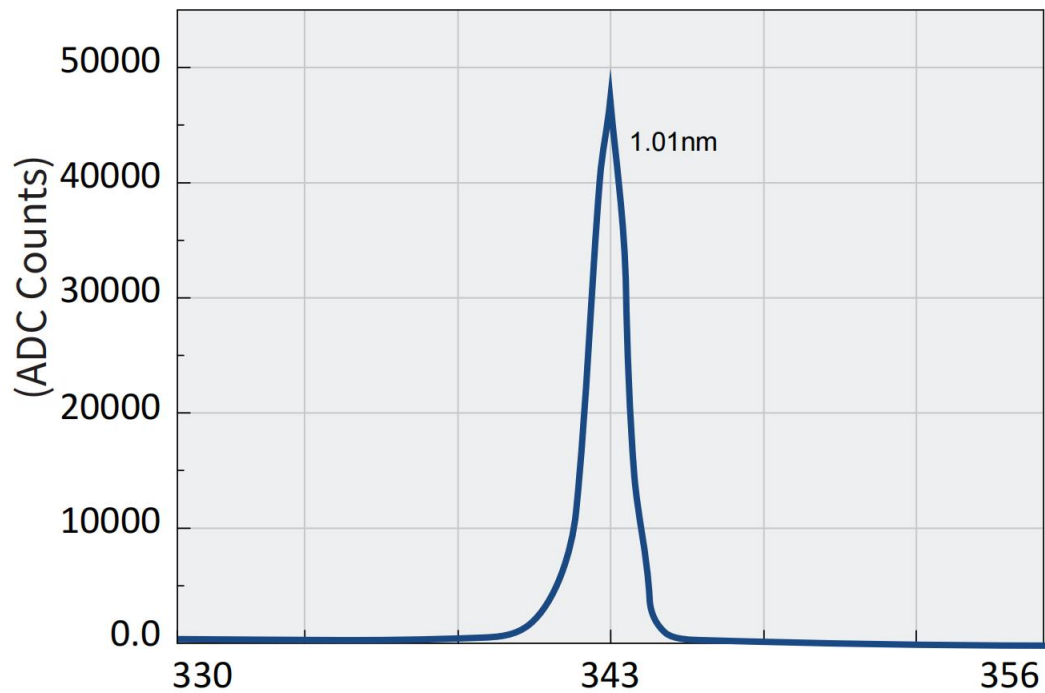
343 nm laser is an ultraviolet UV solid state laser typically generated by frequency-tripling (third-harmonic generation) an infrared 1030 nm Yb:YAG source. Operating at short femtosecond pulse durations, it is highly valued in micromachining, spectroscopy, and medical diagnostics due to its high photon energy and minimal thermal impact.

1. Main Technical Specifications

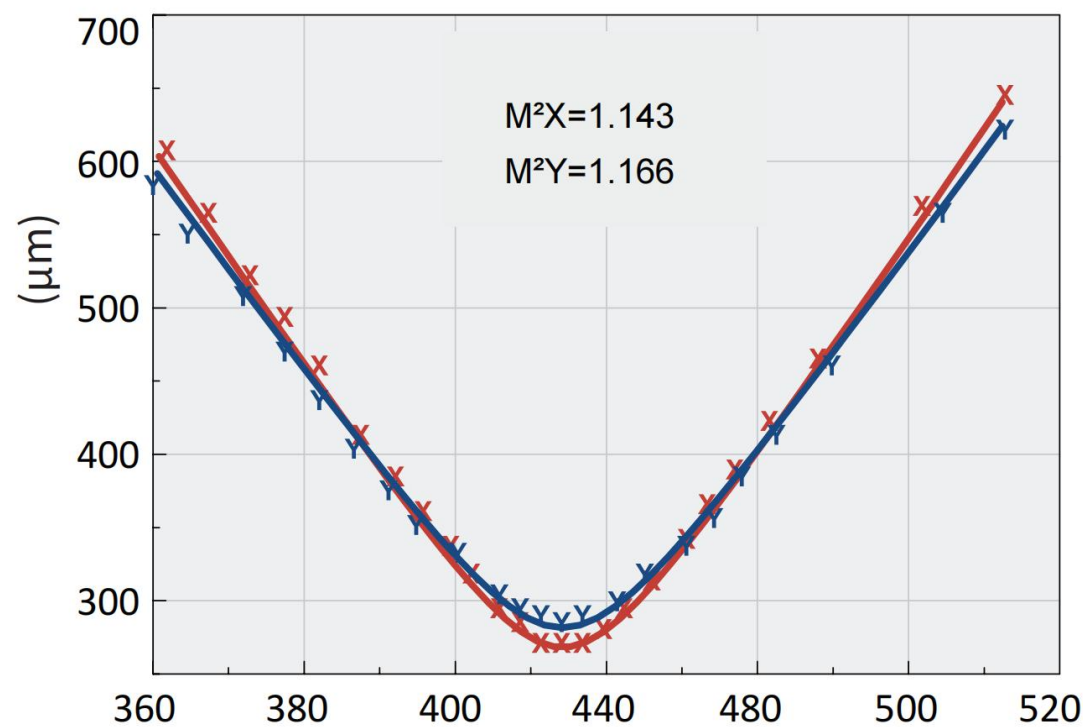
Parameter	Specification
Wavelength	343nm±3nm
Pulse duration	<500fs
Maximum average power	15W
Repetition rate	500kHz-1MHz
Maximum single pulse energy	30μJ
Beam quality	M ² ≤1.3
Beam ellipticity	≥90%
Beam diameter	3±1mm @30cm
Burst	1-10
Polarization property	Vertically polarized
Divergence angle	≤1mrad
Power stability	≤1%RMS (24h)
Energy stability	≤1%RMS (24h)
Cooling requirement	23±0.1℃
Directivity	<25μrad (24h)
Operating mode	Internal control; frequency division; External control: Trigger/Gate
Ambient Temperature	15-30℃
Ambient Humidity	≤60%

2. Characteristic Curves & Beam Profile

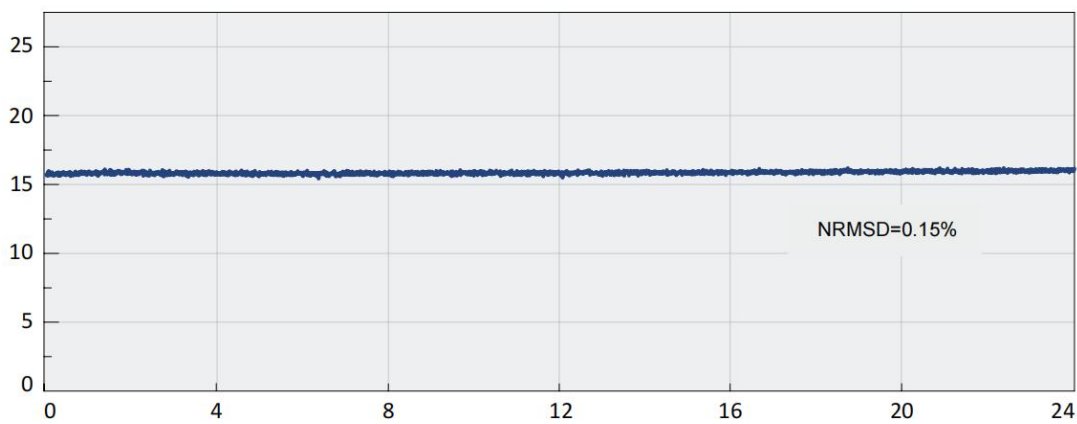
2.1 Spectrum Curve



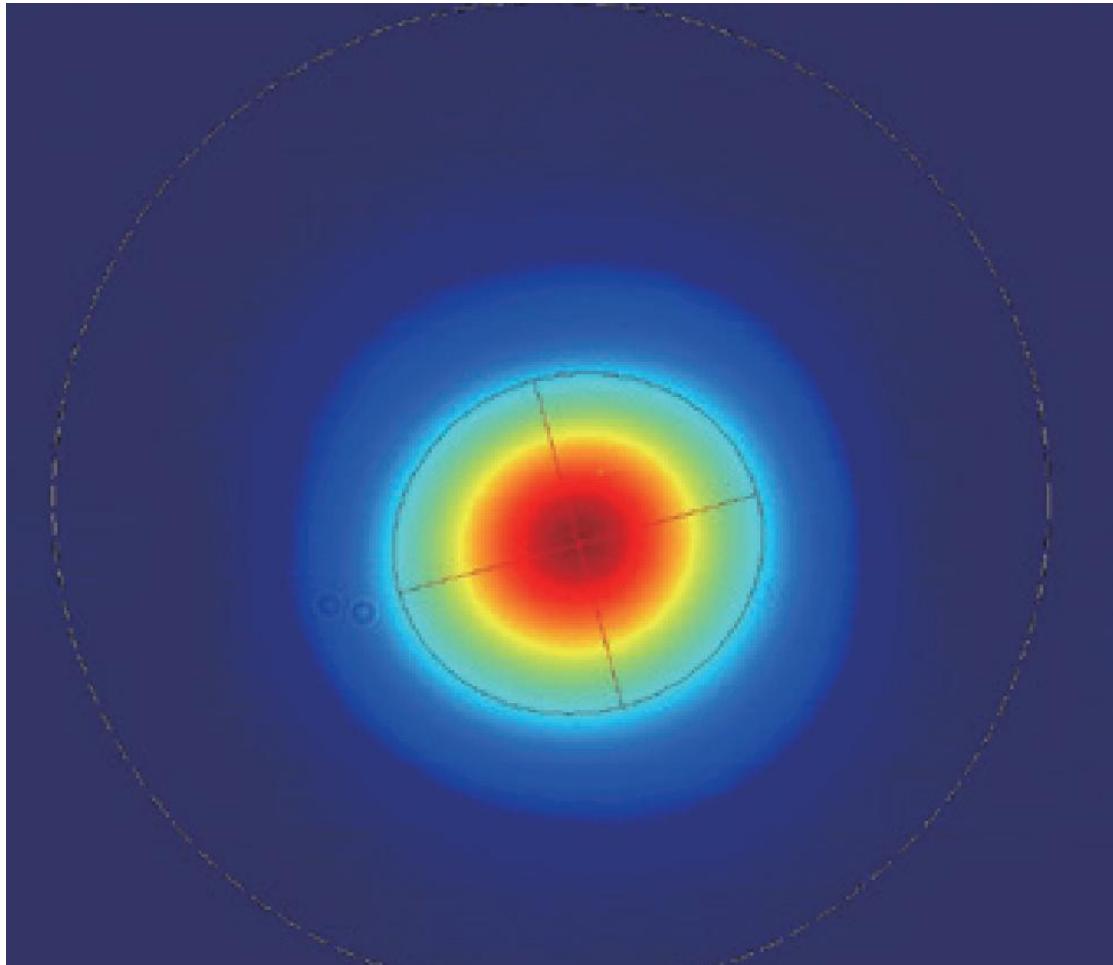
2.2 Beam Quality (M^2) Measurement



2.3 Long-term Power Stability (24h)



2.4 Near-field Beam Profile



3. Typical Applications

- Ultraviolet precision micromachining
- Laser ablation & cold processing
- Spectroscopy research
- Biomedical diagnostics
- Thin-film processing
- Photonics & semiconductor manufacturing