

Satsuma X

Powerful & Versatile Ultrafast Laser

Satsuma X is an all-in-one, and robust femtosecond laser dedicated to all needs in industry and science. Coming with a full suite of unique features, Satsuma X fits any material processing targets, such as battery patterning, nozzle drilling, high quality texturing, wafer dicing, OLED cutting, etc. Satsuma X also gives full satisfaction to research laboratories for diverse applications such as life science, cellular imaging, accelerators, X-ray imaging, neuroscience & optogenetics, etc.

Satsuma X is a robust 50 W femtosecond platform combining high energy (500 μJ), high repetition rate (tunable up to 40 MHz), and high beam quality. It is designed for most demanding applications such as 24/7 industrial operation.

This ultrafast laser is not only powerful, but it is also versatile. According to the needs, it can be equipped with:

- > FemtoTrig®: uniquely adjusts in real time laser frequency to scan speed by accurately controlling pulse emission using our patented technology (ideal for processing round corners)
- > GHz Burst: increases throughput thanks to cumulative energy deposition at GHz rate using our patented technology (up to thousands pulses)
- > FemtoBurst®: Shaping capability in all burst sequence
- > SHG, THG, FHG option

AMPLITUDE SUPPORT AT YOUR PREMISES

Get the most out of your Amplitude laser thanks to our Laser 4.0® Program and numerous internal sensors: a helpful set of digital services to accompany you throughout the laser's life cycle.

Applications

Industry:

- > Ceramics micro-drilling
- > OLED Cutting UV and DUV
- > Metal large area texturing
- > Transparent material welding

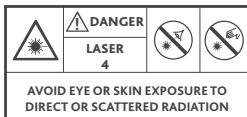
Science:

- > X-Ray Imaging
- > Accelerators
- > Life Science
- > Cellular Imaging
- > Neuroscience & Optogenetics

Key Features

- > Real Pulse on Demand with FemtoTrig®
- > High Adaptability with FemtoBurst®
- > Higher Throughput with GHz Burst®
- > Robust design for 24/7 Operation

20+ years of experience in a box



Satsuma X

Specifications

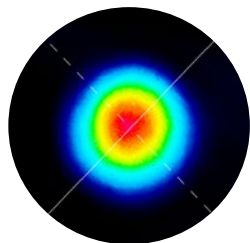
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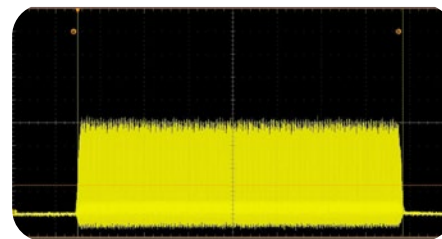
Power (IR/SHG/THG)	28/14/7.5 W	50/25/15 W
Energy (IR/SHG/THG)	280/140/75 μ J	500/250/75 μ J

PERFORMANCE DATA AT 1030 NM

Pulse Width (fs)	From 400 fs to 10 ps* **
Repetition Rate	Tunable up to 40 MHz
Ellipticity	<13%
Wavelength	1030 nm +/- 2 nm
Spectral Bandwidth	< 3 nm
M2	< 1.2
Pointing Stability	< 10 μ rad /°C
Beam Diameter (mm)	4,5 +/- 0,5
Astigmatisme	<25%
Waist asymmetry	<13%
p to p stability	<0.5%RMS
Power Stability (8 hrs)	<0.5%RMS
Burst Mode (MHz)	Up to >100 pulses



Excellent beam quality at 500 μ J



Flat-shape optimized GHz 6000 bursts
100.0 ns/div

OPTIONS

Femtotrig®	Energy level locked for a constant fluence & overlap when repetition rate is driven by an external device (galvo or stage)
Femtoburst®	Burst shaping
GHz burst	from 32 to more than 6,000 pulses (1.28 GHz)
Harmonic	SHG/THG monowave module or Harmonic Generator***

*<500 fs at all repetition rate

** shorter pulse width on demand

***not compatible with GHz option



SHG / THG



Mango



Compress



Synclock



Harmonic Generator