

# 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  $\mu$ J), high repetition rate (tunable up to 40 MHz), pulse duration under 400 fs, 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™: MHz burst shaping capability
- > 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:

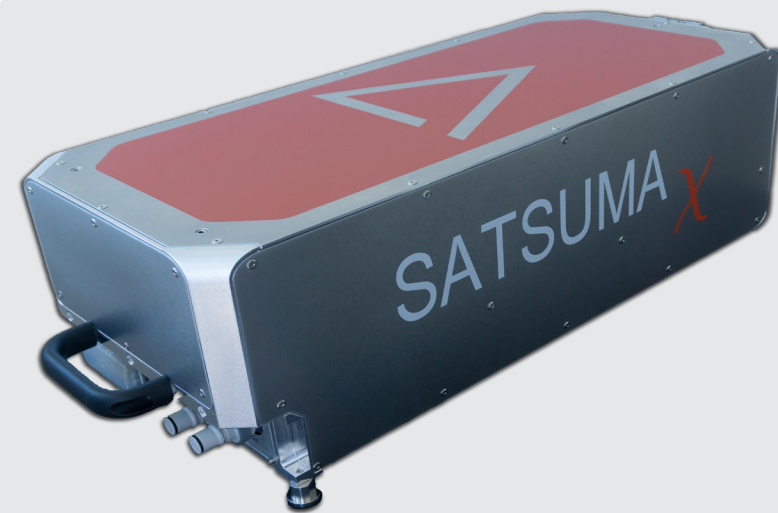
- > Ceramics micro-drilling
- > OLED Cutting UV and DUV
- > Metal large area texturing
- > Transparent material welding

#### Science:

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

### Key Features

- > Real Pulse on Demand with FemtoTrig™
- > Higher Throughput with GHz Burst™
- > Robust design for 24/7 Operation



20+ years of experience in a box

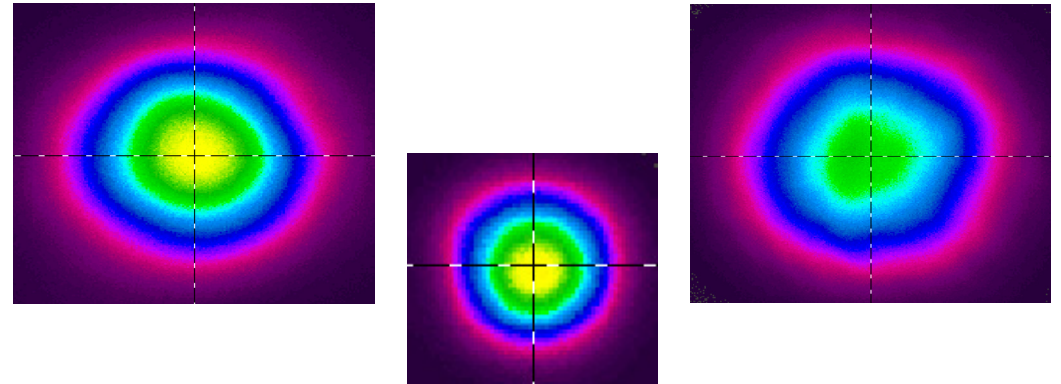


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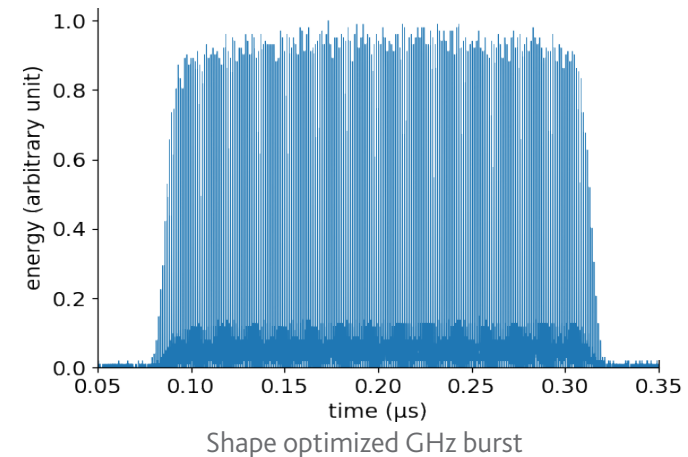
## Specifications

	Satsuma X - 28	Satsuma X - 50
Power (IR/SHG/THG)	28/14/7.5 W	50/25/15 W
Energy (IR/SHG/THG)	280/140/75 $\mu$ J	500/250/75 $\mu$ J
Pulse Width (fs)	<400	
Repetition Rate	Tunable up to 40 MHz	
Ellipticity	<13%	
Wavelength	1030 nm +/- 5 nm	
M2	< 1.2	
Pointing Stability	< 20 $\mu$ rad / $^{\circ}$ C	
Beam Diameter (mm)	4,5 +/- 0,5	
Astigmatisme	<25%	
Waist assymetry	<13%	
Pointing Stability	<20 $\mu$ rad/ $^{\circ}$ C	
p to p stability	<1%RMS	
Power Stability (8 hrs)	<0.5%RMS	
<b>OPTIONS</b>		
Burst Mode (MHz)	Up to >80 pulses	
Femtotrig - real pulse on demand	Down to single shot	
Femtoburst - arbitrary burst shaping	Yes	
GHz burst	from 30 to up to 3,000 pulses (1.28 GHz)	
Pulse Duration Adjustment	From minimum pulse duration to 10 ps	
Harmonic	Add-on: SHG / THG in additional module**	

\*\*not compatible with GHz option



Excellent beam quality at the waist plane (center) and on both sides around the waist plane (left and right)



Specifications are subject to change without prior notice | © 06-2024 | Ref. 1603-d