



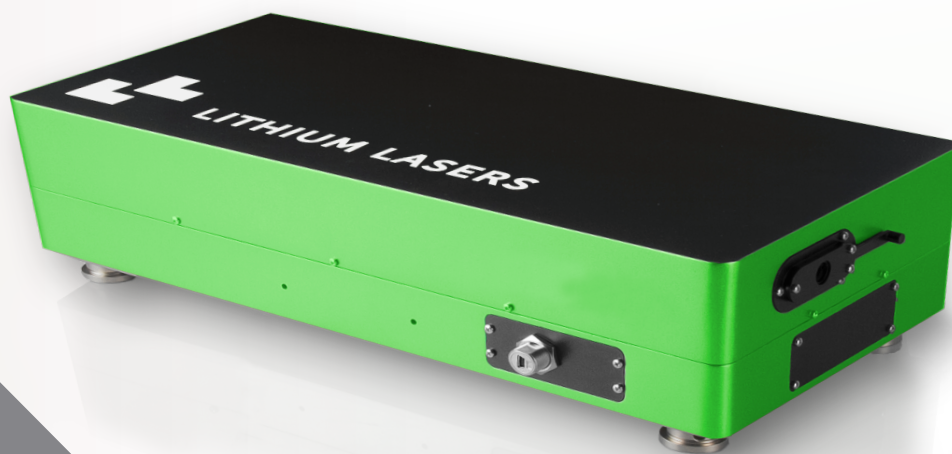
## LithiumSix525

### Product Description:

LithiumSix525 is our solid state frequency doubled femtosecond green laser specifically design for ultra-precise manufacturing applications. LithiumSix525 is a compact laser that emits very short pulses ( $< 150$  fs) with high average powers up to 5 Watt.

The extreme peak to peak power stability, the excellent beam pointing steadiness and the long-term power stability of Lithium Six525 allows to achieve high accuracy and reliability in micro-fabrication processes. Moreover, the high average power ensures the operation of several parallel manufacturing platforms contributing to the optimization of the production costs.

Our LithiumSix525 is the right choice for scientific and industrial projects that aim to push the resolution well beyond the diffraction limit challenging the state-of-the-art in micromachining field.



**Lithium Lasers Srl**

Corso di porta Vittoria 28, Milano, Italy

Phone : +393894904012

E-mail: [info@lithiumlasers.com](mailto:info@lithiumlasers.com)

REA MI-2565661

C.F. e iscrizione R.I. 10910270965

[www.lithiumlasers.com](http://www.lithiumlasers.com)



## LASER SPECIFICATIONS

Center Wavelength	$525 \pm 2.5 \text{ nm}$
Pulse Duration	$< 150 \text{ fs}$
Spectral Shape	Gaussian
Average Power	$1.5 - 5 \text{ W}^*$
Pulse Energy	$18.75 - 62.5 \text{ nJ}$
Repetition Rate	$80 \text{ MHz}^\dagger$
Beam Quality	$M2 < 1.1$
PER	$> 23 \text{ dB}$
Amplitude Noise	$< 0.1 \% \text{ rms}$
Warm-up Time	$< 20 \text{ sec}$
Operation Temperature	$10 - 40 \text{ }^\circ\text{C}$
Head dimensions	$430 \times 222 \times 114 \text{ mm}$
Head Weight	$10 \text{ Kg}$

\* Average power  $> 5\text{W}$  are available upon request.

† Different repetition rates are available upon request.



## LithiumSix912

### Product Description:

LithiumSix912 is the first triple wavelength high power femtosecond laser on the market. The laser scheme is very simple: our high-power femtosecond oscillator is combined with a nonlinear medium where the single input line is converted into several output wavelengths (940, 1050 and 1200 nm) that are spatially overlapped and they can also be used simultaneously. Our innovative laser represents the real breakthrough for the most advanced scientific applications where mode-locking pulse trains are required at different wavelengths. With LithiumSix912 you will enjoy the power of having three ultrafast lasers in one!



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## LASER SPECIFICATIONS

Center Wavelength	940 nm	1050 nm	1200 nm
Pulse Duration	< 180 fs	< 150 fs	< 160 fs
Pulse Energy	< 12.5 nJ	< 25 nJ	< 18 nJ
Average Power	> 1 W	> 2 W	> 1.5 W
Spectral Shape	Gaussian		
Repetition Rate	80 MHz		
Beam Quality	M2 < 1.1		
PER	> 23 dB		
Amplitude Noise	< 1 % rms		
Warm-up Time	< 20 sec		
Operation Temperature	10 - 40 °C		
Head dimensions	430 X 222 x 114 mm		
Head Weight	10 Kg		

Wavelength selection and dispersion control module is available as stand-alone accessory.





## LithiumSix1050

### Product Description:

LithiumSix1050 is our high power femtosecond oscillator with central wavelength at 1050 nm. It is a diode pumped solid state passively mode locked laser, based on a patented technology enabling turn-key 24/7 ultra-stable operation together with state-of-the-art performances.

LithiumSix1050 is a compact laser with a small footprint that embeds all the electronics required for its control. Very short laser pulses ( $< 150$  fs) and peak powers up to the megawatt level make LithiumSix1050 suitable for a variety of applications ranging from Seeding of Ultrafast Amplifiers, Super-continuum Generation, Harmonic Generation, Multi-Photon Microscopy, Ultrafast Spectroscopy, Femtosecond Lithography, Nonlinear Optics and OPA pumping. A green version of the laser is available with output powers ranging from 1.5 to 5 Watt (LithiumSix525).



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20122, Milano - ITALY

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## LASER SPECIFICATIONS

Center Wavelength	$1050 \pm 5 \text{ nm}$
Pulse Duration	$< 150 \text{ fs}$
Spectral Shape	Gaussian
Average Power	3 - 10 W*
Pulse Energy	37.5 - 125 nJ
Repetition Rate	80 MHz <sup>†</sup>
Beam Quality	$M2 < 1.1$
PER	$> 23 \text{ dB}$
Amplitude Noise	$< 0.1 \% \text{ rms}$
Warm-up Time	$< 20 \text{ sec}$
Operation Temperature	10 - 40 °C
Head dimensions	430 X 222 X 114 mm
Head Weight	10 Kg

\* Average power  $> 10 \text{ W}$  are available upon request.

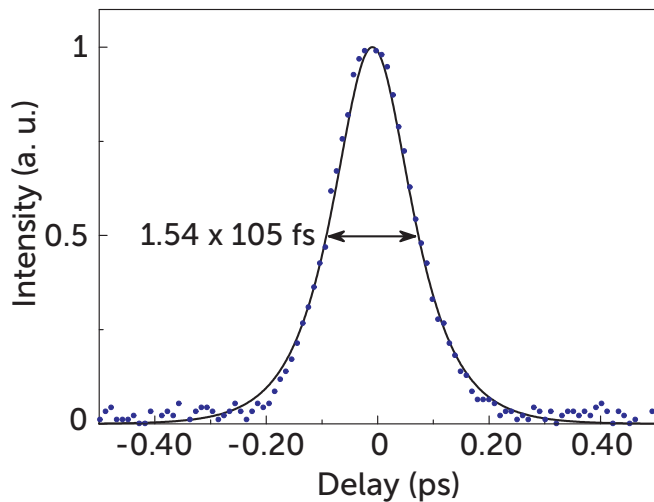
<sup>†</sup> Different repetition rates are available upon request.



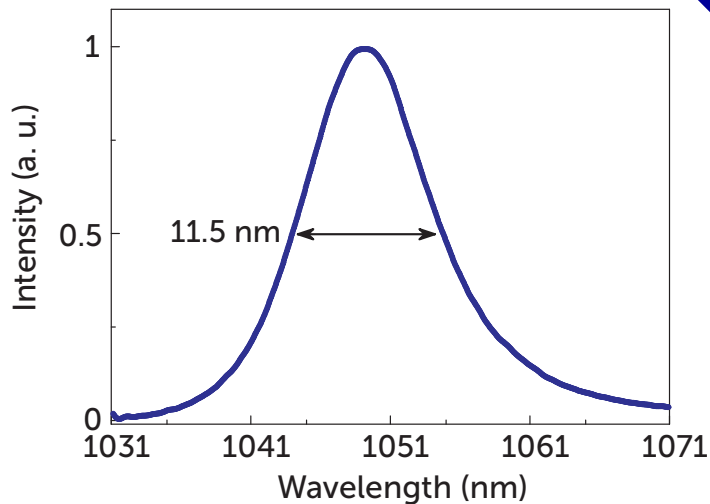
# LITHIUM LASERS

The power of ultrafast focused on your needs

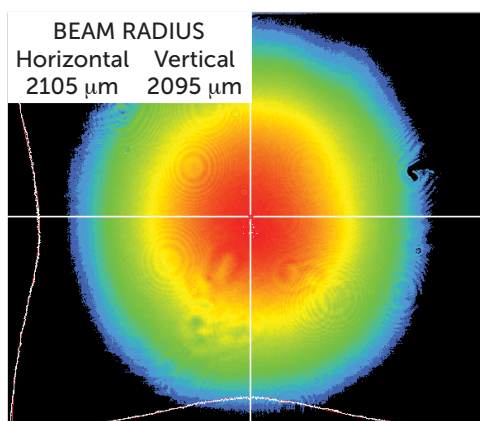
AUTOCORRELATION TRACE



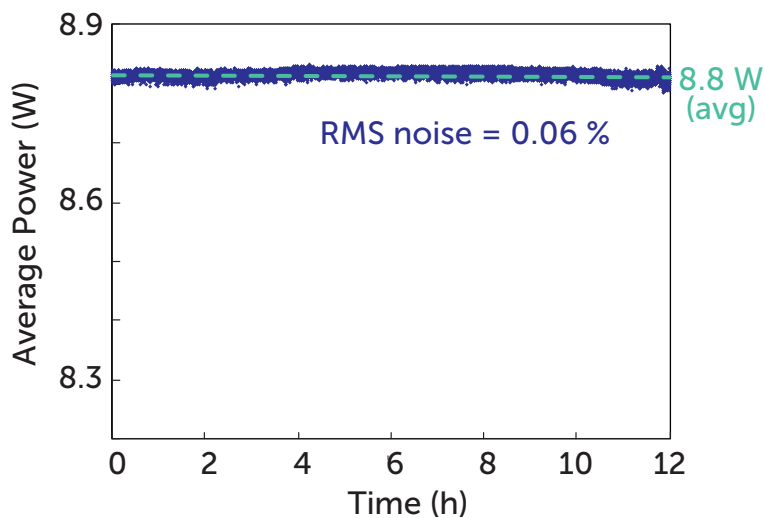
OPTICAL SPECTRUM



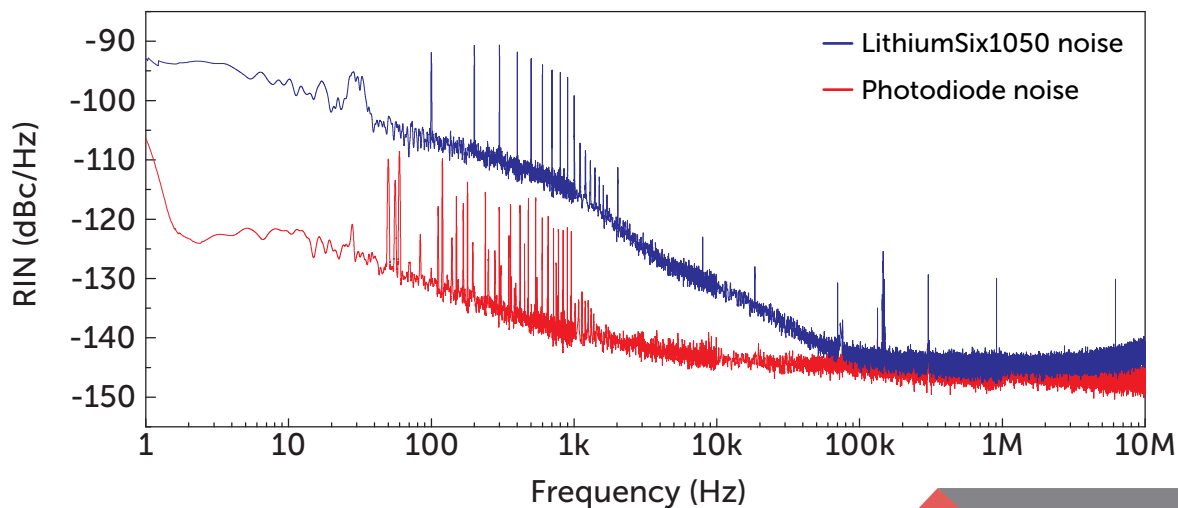
BEAM PROFILE



LONG-TERM POWER STABILITY



RIN MEASUREMENT

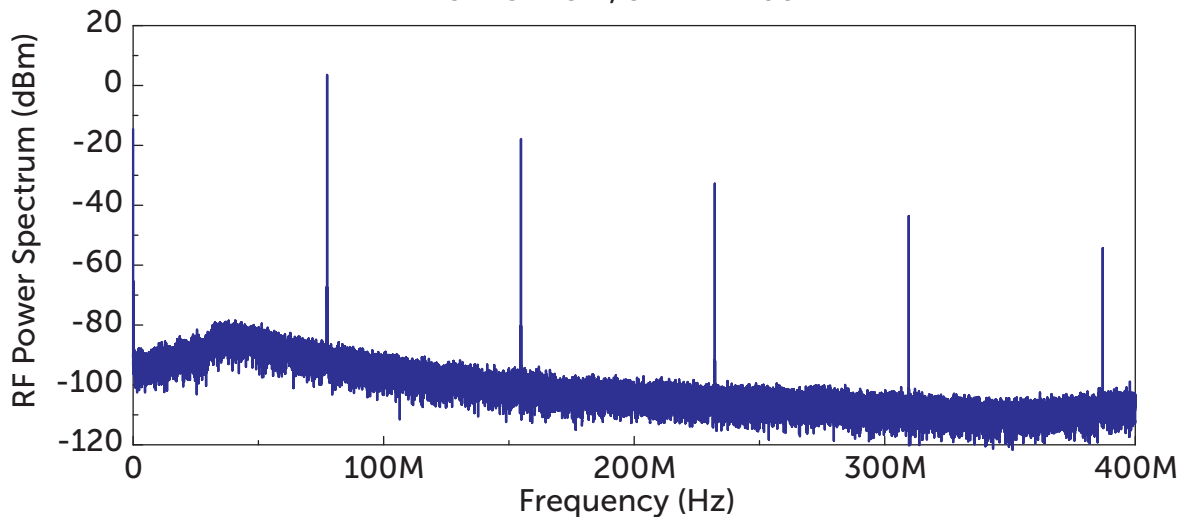




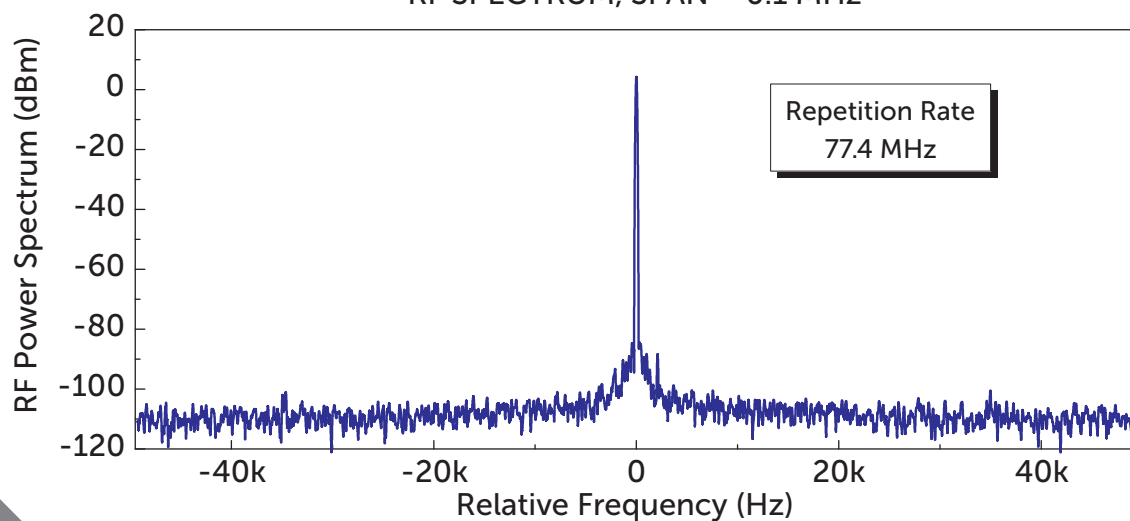
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RF SPECTRUM, SPAN = 400 MHz



RF SPECTRUM, SPAN = 0.1 MHz



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## LithiumSeven1030

### Product Description:

LithiumSeven is our ultrafast amplifier based on a novel optical amplification scheme leading to extreme performances. LithiumSeven is available in two different versions: the LithiumSeven1030 delivers pulses with energy higher than 80  $\mu\text{J}$  (at 1 MHz repetition rate) and pulse duration below 300 fs. LithiumSeven1050 delivers pulse energies of more than 5  $\mu\text{J}$  (at 1 MHz repetition rate) with extremely short pulse duration (100 fs). LithiumSeven is the next generation ultrafast amplifier combining stable 24/7 operation, compactness, ease of use, and performances. It is the perfect tool for many micro-machining and biomedical application.



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## LASER SPECIFICATIONS

Center Wavelength	1030 nm
Pulse Duration	< 300 fs
Spectral Shape	Gaussian
Average Power	> 80 W
Pulse Energy	> 80 uJ
Repetition Rate	1 MHz
Beam Quality	M2 < 1.1
PER	> 23 dB
Amplitude Noise	< 1.5 % rms
Warm-up Time	< 20 sec
Operation Temperature	10 - 40 °C
Head dimensions	400 X 200 X 100 mm
Head Weight	15 Kg

Second harmonic generation stage is available upon request



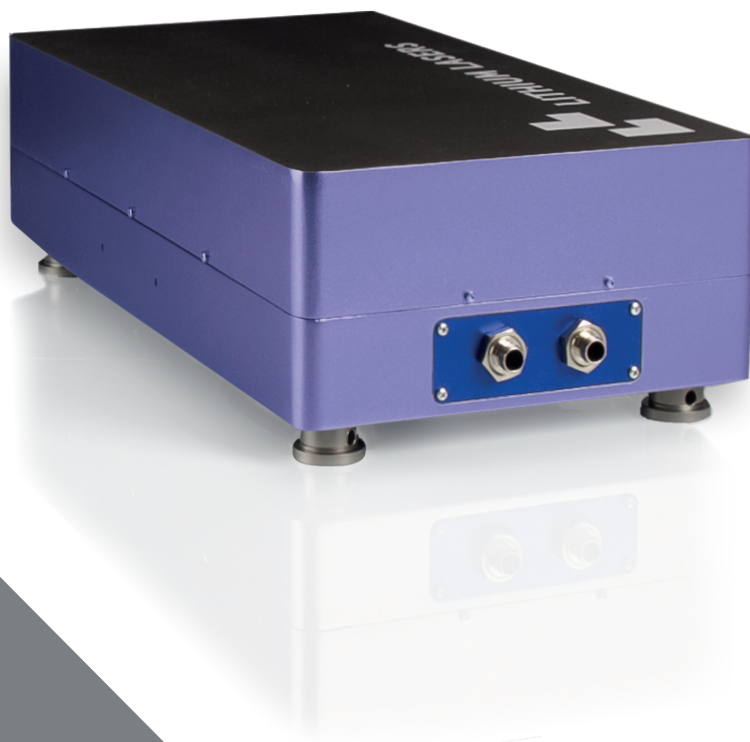
# LITHIUM LASERS

The power of ultrafast focused on your needs  
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## LithiumSeven1050

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## LASER SPECIFICATIONS

Center Wavelength	1050 nm
Pulse Duration	< 120 fs
Spectral Shape	Gaussian
Average Power	> 5 W
Pulse Energy	> 5 uJ
Repetition Rate	1 MHz
Beam Quality	M2 < 1.1
PER	> 23 dB
Amplitude Noise	< 1.5 % rms
Warm-up Time	< 20 sec
Operation Temperature	10 - 40 °C
Head dimensions	400 X 200 X 100 mm
Head Weight	15 Kg

Second harmonic generation stage is available upon request