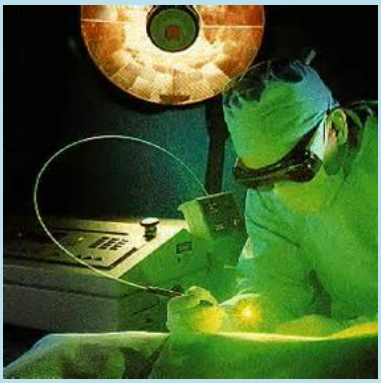
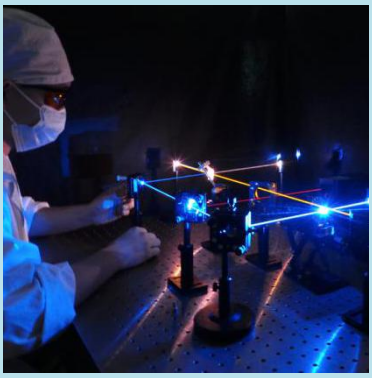
CNI Q-switched laser

CNI lasers have narrow pulse width, high peak power, and features of stable energy, easy operation, reliable performance and long life time,wavelength from 244nm-4800nm.They are widely using on marking, medical treatment, scientific research and teaching.

Laser marking



medical treatment



scientific research

1064nm Q-switched laser

Applications:

Scientific Research

Life Science & Medical

Materials Processing

Microelectronics

Lidar system

Marking machine

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Tel: +86-431-85603799 Website: www.cnilaser.com Email: sales@cnilaser.com

CNI offer diverse of Q switched 1064 nm lasers in passively and actively modes. With pulse width from 1.3 ns to 20 ms, and single pulse energy from 1 uJ to 20 J. Our Q-switched lasers are perfect choice for the end user applications in research, medical and industry.

Passively (Q-switched):

Model	Single pulse energy	Pulse width	Features	Transverse mode
MPL-III-1064	10-20 μJ	~3.25ns(1.3 optional)	M^2<1.2	TEM00
MPL-T-1064	10-100 μJ	~1.3-10ns	M^2<1.5	TEM00
MPL-H-1064	20-100 μJ	~10ns(1.5 optional)	M^2<1.2	TEM00
MPL-FL-1064-A	15-130 μJ	~5ns(1.3 optional)	M^2<1.3	TEM00
MPL-FL-1064-B	150-300 μJ	~2ns(1.0 optional)	M^2<1.5	TEM00
MPL-N-1064	150-200 μJ	~3.5ns(<2 optional)	M^2<1.2	TEM00

Operating mode(Q-switched) of MPL series is passively, It has high frequency about 20k or 30kHz. M^2 can be very good in this series. It's widely used in diamond planning & marking and scientific research.

Acousto-optic (Q-switched):

Model	Single pulse energy	Pulse width	Features
AO-S-1064	1-350 μJ	7-11ns@<10kHz	M^2<1.5
AO-I-1064	1-500 μJ	~10ns@20kHz	M^2<2
AO-N-1064	1-600 μJ	~7ns@10kHz	
AO-W-1064	1-600 μJ	~10ns@<10kHz	
AO-V-1064	1-600 μJ	~25ns@30kHz	M^2<2
AO-L-1064	1-1500 μJ	~10ns@10kHz	
AO-M-1064	1-1000 μJ	~13ns@20kHz	Water cooled

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AO-H-1064	1-1000 μJ	~20ns@30kHz	M^2<2
AO-X-1064	1-670 μJ	~20ns@30kHz	M^2<1.5

This series is AOM Q-switched laser, high peak power, high repetition rate, and short pulse duration, which are widely used in marking, carving, measure, research.

Electro-optic (Q-switched):

Model	Single pulse energy	Pulse width	Features
EO-XS-1064	1~180 μJ	~4ns @50 kHz	
EO-HS-1064	1-320 μJ	~4ns @50 kHz	
EO-S-1064	1-300 μJ	~8ns	
EO-1064-G	500-1000 μJ	<15ns	M^2<1.2
EO-1064-H	1-2mJ	<10ns	M^2<1.5
EO-1064-N	1-2mJ	<15ns	

This series is electro-optic Q-switched laser. The features are high single pulse energy, short pulse duration, and high peak power, which are widely used in laser distance measuring, laser Lidar, laser Raman, ICP-MS, LIBS, scientific research and so on.

Diode pumped all solid state Q-switched laser

Model	Single pulse energy	Pulse width	Features
DPS-1064-H	1-30mJ	<5	M^2<1.5
DPS-1064-D	0.5-2mJ	<10	
DPS-1064-E	3-8mJ	<4	
DPS-1064-P-Mini	6mJ	3±1	
DPS-1064-A	1-10mJ	~10	
DPS-1064-B	1-30mJ	<10	
DPS-1064-BS-D	30-100mJ	<10	
DPS-1064-Q	5-40mJ	~12	High rep. rate
DPS-1064-J	1-40mJ	~10	Harsh condition

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Lamp pumped solid state Q-switched laser

Model	Single pulse energy	Pulse width	Features
LPS-1064-A	50-200mJ	~10	
LPS-1064-S	50-300mJ	~10	
LPS-1064-L	350-1000mJ	~10	
LPS-1064-M	1-10J	0.1-20ms	Long pulse

The features of Diode pumped all solid state Q-switched laser series and Lamp pumped solid state Q-switched laser series are high single pulse energy and high stability, which are widely used in PIV, LIBS, scientific research and so on.

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532nm Q-switched laser

Applications:

Scientific Research

Life Science & Medical

Materials Processing

Microelectronics

Lidar system

Marking machine

Passively (Q-switched):

Model	Single pulse energy	Pulse width	Features	Transverse mode
MPL-III-532	1-5 μJ	~3.25ns(1.3 optional)	M^2<1.2	TEM00
MPL-H-532	10-100 μJ	~1.3-10ns	M^2<1.5	TEM00
MPL-N-532	20-100 μJ	~10ns(1.5 optional)	M^2<1.2	TEM00

Acousto-optic (Q-switched):

Model	Single pulse energy	Pulse width	Features
AO-N-532	1-60 μJ	~10ns<10kHz	
AO-S-532	1-100 μJ	5-10ns @<10kHz	M^2<1.5
AO-W-532	1-300 μJ	~10ns @<10kHz	
AO-V-532	1-300 μJ	<15ns @ 25kHz	
AO-L-532	1-600 μJ	~6ns @5kHz	
AO-X-532	1-670 μJ	~15ns @30kHz	
AO-U-532	500-1000 μJ	<15ns @40kHz	

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Electro-optic (Q-switched):

Model	Single pulse energy	Pulse width	Features
EO-532-G	200-500uJ	<15	M^2<1.2
EO-532-H	300-500 μJ	<10	M^2<1.5
EO-532-N	500-1000uJ	<15	

Lamp pumped solid state Q-switched laser

Model	Single pulse energy	Pulse width	Features
LPS-1064-A	50-200mJ	~10	
LPS-1064-S	50-300mJ	~10	
LPS-1064-L	350-1000mJ	~10	

Diode pumped all solid state Q-switched laser

Model	Single pulse energy	Pulse width	Features
DPS-532-H	1-30mJ	<5	M^2<1.5
DPS-532-E	3-8mJ	<4	
DPS-532-P-Mini	6mJ	3±1	
DPS-532-A	1-10mJ	~10	
DPS-532-B	1-30mJ	<10	
DPS-532-BS-D	30-100mJ	<10	
DPS-532-Q	5-40mJ	~12	High rep. rate
DPS-532-J	1-40mJ	~10	Harsh condition

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355nm Q-switched laser

Applications:

Scientific Research

Life Science & Medical

Materials Processing

Microelectronics

Lidar system

Marking machine

Passively (Q-switched):

Model	Single pulse energy	Pulse width	Features
MPL-F-355	0.1-15 μJ	~5ns	
MPL-N-355	0.1-90 μJ	~1.3~7ns	
MPL-W-355	25-80 μJ	~5ns	Near TEM00 Beam

Acousto-optic (Q-switched):

Model	Single pulse energy	Pulse width	Features
AO-S-355	1-40 μJ	5-10ns @<10kHz	M^2<1.5
AO-L-355	40-100 μJ	~6ns	
AO-V-355	1-250 μJ	~15ns @30kHz	Water cooled

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Diode pumped all solid state Q-switched laser

Model	Single pulse energy	Pulse width	Features
DPS-355-E	1-2mJ	<4ns	
DPS-355-Q	2-10 mJ	<10ns	

Lamp pumped solid state Q-switched laser

Model	Single pulse energy	Pulse width	Features
LPS-355-S	20-80mJ	<10ns	
LPS-355-L	80-200 mJ	<10ns	

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UV and IR Q-switched pulsed laser (other wavelengths)

Model	wavelength	Single pulse energy	Average power	Pulse width	Frequency
MPL-Q-244	244±1 nm	0.1-3.75 μJ	1-15mW @4kHz	~4ns @40kHz	
MPL-N-257	257±1 nm	0.1-4 μJ	1-15 mW	~10 ns	2k-5kHz
MPL-F-261	261±1 nm	0.1-4 μJ	1-10 mW	~4 ns	1k-3kHz
MPL-F-266	261±1 nm	0.1-3 μJ	1-10 mW	~5 ns	1k-7kHz
MPL-N-266	261±1 nm	~10 μJ	1-120 mW	~1.3-6 ns	3k-15kHz
MPL-W-266	261±1 nm	~30 μJ	600 mW	~5 ns	1k-20kHz
AO-W-266	261±1 nm	20 μJ	200 mW	10-15 ns @<10kHz	1k-50kHz
EO-266-H	261±1 nm	0.1 mJ	700 mW	<6 ns	2k-7 kHz
DPS-266-Q	266±1 nm	2-5mJ		<10	1-100Hz
MPL-Q-290	290±2 nm	1-5 μJ	50 mW	10±2 ns	10 kHz
EO-XS-335	335±1 nm	1~10(10μJ @10kHz)	1-100 mW	~4 ns	10 kHz
MPL-F-349	349±1 nm	0.1-10 μJ	1-30 mW	~4 ns	1Hz-3 kHz
MPL-F-351	351±1 nm	0.1- 4 μJ	1-10 mW	~4 ns	1Hz-3 kHz
AO-S-351	351±1 nm	1-15 μJ	1-30 mW	6-10 ns	0.1k-15 kHz
EO-XS-447	447±1 nm	1-30 μJ (30 μJ@10kHz)	1-300 mW	~4ns @ 4kHz	10 kHz
AO-V-457	457±1 nm	1-50 μJ	1-500 mW	~300ns @10 kHz	1Hz-50 kHz
AO-V-473	473±1 nm	1-50 μJ	1-500 mW	~200ns @10 kHz	1k-200 kHz
AO-V-523	523±1 nm	1-433 μJ	1mW-1.3 W	~10ns @3 kHz	3k-10 kHz
AO-S-526.5	526.5±1 nm	1-20 μJ	1mW-1000mW	5-10ns @<10kHz	0.1k-50 kHz
HPL-556-Q	556±1 nm	2-5 mJ	1-50 W	~100@10 kHz	10k-20 kHz

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HPL-589-Q	589±1 nm	2.5-12.5mJ	10-50 W	100-150ns	4k or 14kHz
HPL-589.159-Q	589.159 ±0.001 nm	1mJ@5W (nonadjustable)	1-5 W (nonadjustable)	100~150@5W (nonadjustable)	5 kHz
LGS-589.159-PS	589.159 ±0.001 nm		1-25W	<160 us	100±1 MHz
MPL-III-656.5	656.5±1nm	1-2 μJ	1-6 mW	~15 ns	1Hz-3 kHz
MPL-III-660	660±1nm	1-2 μJ	1-6 mW	~15 ns	1Hz-3 kHz
MPL-H-660	660±1nm	1-5 μJ	1-15 mW	~15 ns	1Hz-3 kHz
HPL-660-Q	660±1nm	2-5 mJ	1-50 W	10-20 ns	10k-20 kHz
HPL-660-QM	660±1nm	10 mJ	50-100 W	~150 @10kHz	10 kHz
EO-XS-671	671±1nm	1-50(50μJ @10kHz)	1-500 mW	~4 @10kHz	10 kHz
MPL-W-786	786±1nm	1-20 μJ		~30 ns	10 Hz
MDL-III-P-905	905±10nm		25 mW	~20 ns	1k-10 kHz
AO-V-914	914±1nm	1-100 μJ	1-1.5W	~80ns @1kHz; ~180ns @30kHz	1k-50 kHz
AO-W-946	946±1nm	1-150 μJ	1-1.5W	~90 @10kHz	1k-50 kHz
MPL-F-1030	1030±2nm	1-150 μJ	1-300 mW	~10 ns	1kk-2 kHz
AO-W-1030	1030±1nm	1-130 μJ	1-1.3 W	~50 ns@10kHz	1-10 kHz
MPL-III-1047	1047±1nm	10-50 μJ	1-5 W	~10 ns	1kHz-5 kHz
MPL-H-1047	1047±1nm	50-150 μJ	1-450 mW	~6 ns	1Hz-3 kHz
AO-S-1047	1047±1nm	1-250 μJ	1-20 W	7-11 ns	0.1-80 kHz
AO-V-1047	1047±1nm	1-2000 μJ	1-3 W	~10 ns@3kHz	1-10 kHz
MPL-III-1053	1053±1nm	10-30 μJ	660-3000 mW	10-15 ns	1Hz-20 kHz
MPL-H-1053	1053±1nm	30-50 μJ	1-1.5 W	~10 ns	1Hz-30 kHz
AO-S-1053	1053±1nm	1-250 μJ	1-20 W	7-11 ns	0.1-80 kHz
MPL-III-1313	1313±1nm	1-5 μJ	1-100 mW	~10 ns	1-20 kHz

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MPL-H-1313	1313±1nm	10-20 μJ	120 mW	~18 ns	1-6 kHz
MPL-III-1319	1319±1nm	1-6 μJ	1-120 mW	~10 ns	1k-20 kHz
MPL-H-1319	1319±1nm	7-15 μJ	1-300 mW	~15 ns	1k-20 kHz
AO-W-1319	1319±1nm	1-800 μJ	1-2 W	~80 ns@10kHz	1k-70 kHz
HPL-1319-Q	1319±1nm	5 mJ	1-50 W@10kHz	~250 ns@10kHz	10k-20 kHz
HPL-1319-QM	1319±1nm	10 mJ	50-100W @10kHz	~250 ns@10kHz	10k-20 kHz
EO-XS-1342	1342±1nm	1-200 μJ	1-2 W	~4 ns@10kHz	10 kHz
AO-W-1342	1342±1nm	1-500 μJ	2-4 W	~40 ns@10kHz	1k-50 kHz
MPL-H-1573	1573±1nm	1-50 μJ	50 mW	1-2 ns	1Hz-1kHz
AO-W-1573	1573±1nm	1-30 μJ	1-1000 mW	~10 ns	1k-50 kHz
DPS-1573-A	1573±1nm	1-2mJ		~10	1-10Hz
DPS-1573-Q	1573±1nm	5-20mJ		~10	1-20Hz
LPS-2940-S	2940±1nm	100-200mJ		0.9ms	1-5Hz
MPL-N-3800	3800±20nm		300 mW	5-10 ns	5k-15 kHz
AO-V-3800	3800±30nm		500 mW	~22 ns@30kHz	30 kHz
HPL-MIR	3900~4500 nm	900 μJ	1-9 W	~20 ns@10kHz	10 kHz
MPL-N-2600-4400	2600 2800 3000 3200 3400 3600 4000 4200 4400 nm		200-300 mW	5-10 ns	5k-10 kHz
AO-V-2600-4400	2600 2800 3000 3200 3400 3600 4000 4200 4400 nm		400-500 mW	~22 ns@30kHz	30kHz

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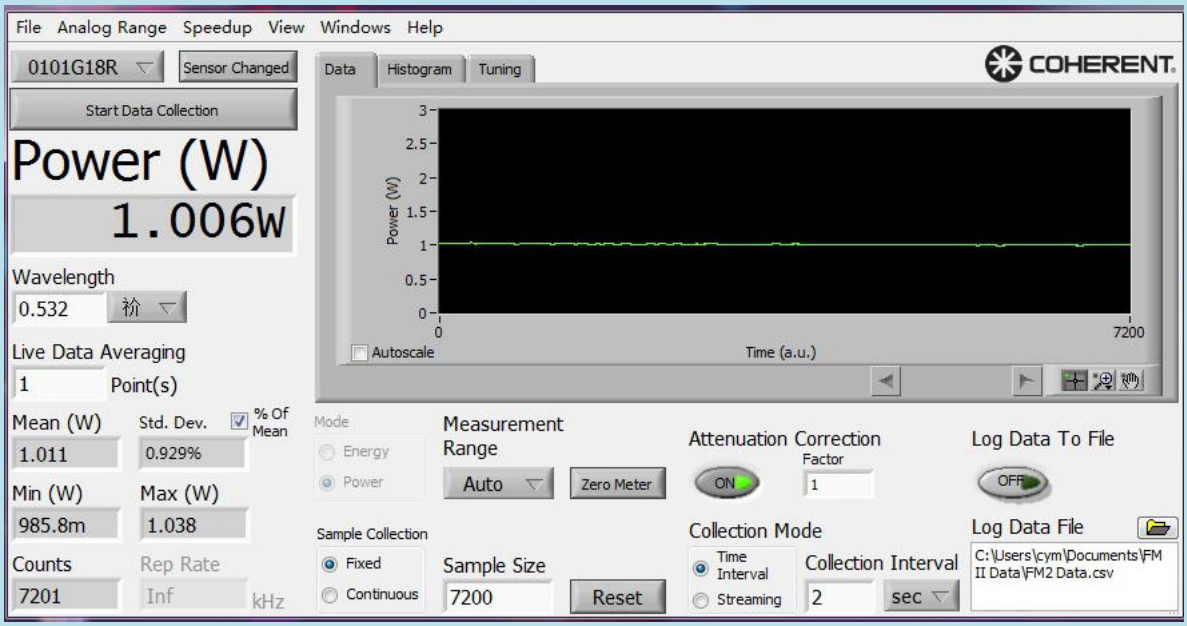
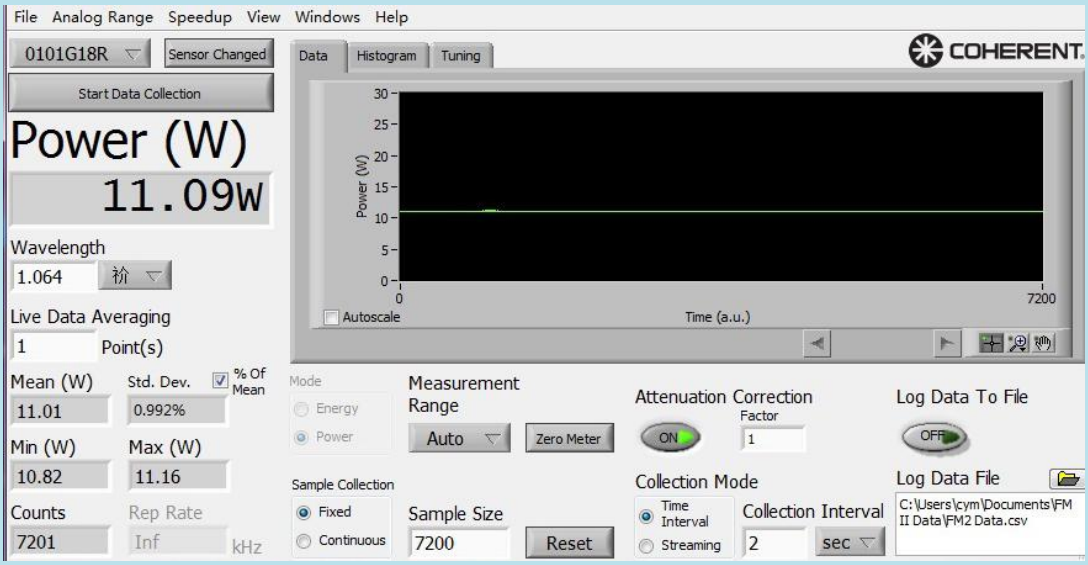
Testing reports

MPL series:



Using COHERENT power meter gets power stability <1% over 4 hours

AO series:



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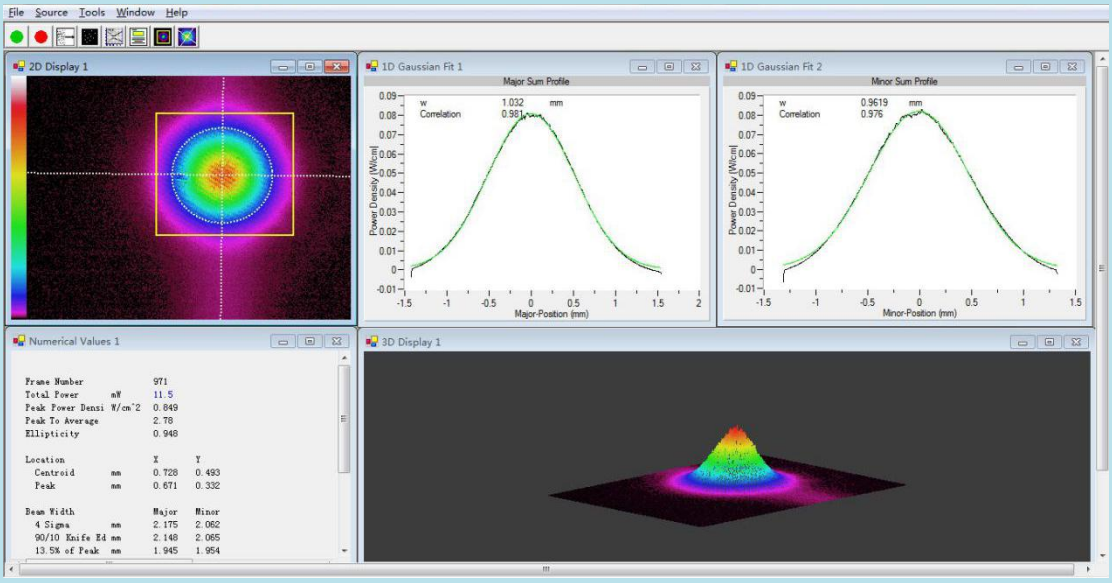
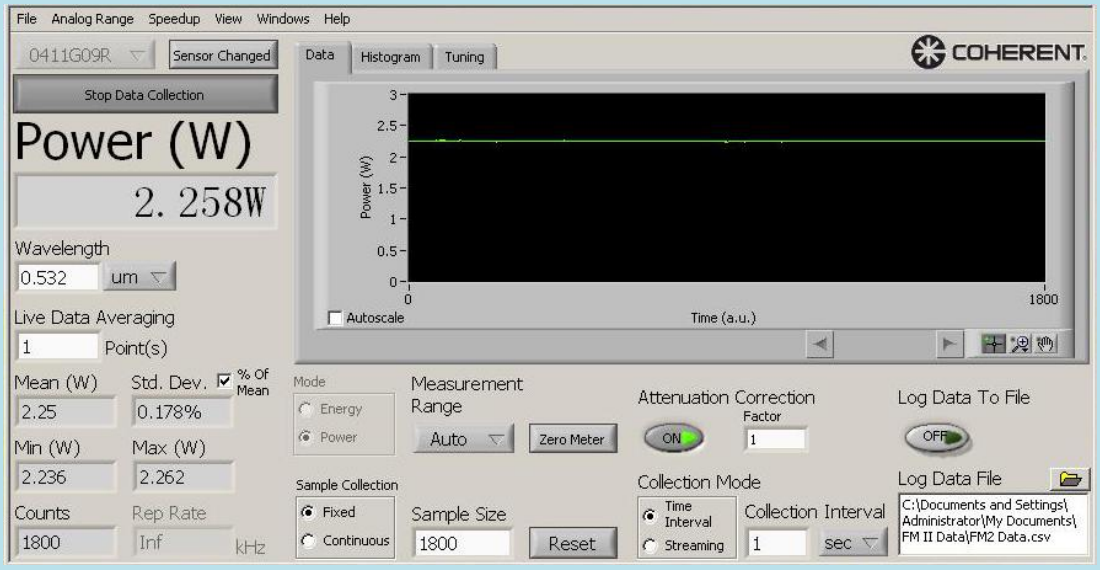


EO series:



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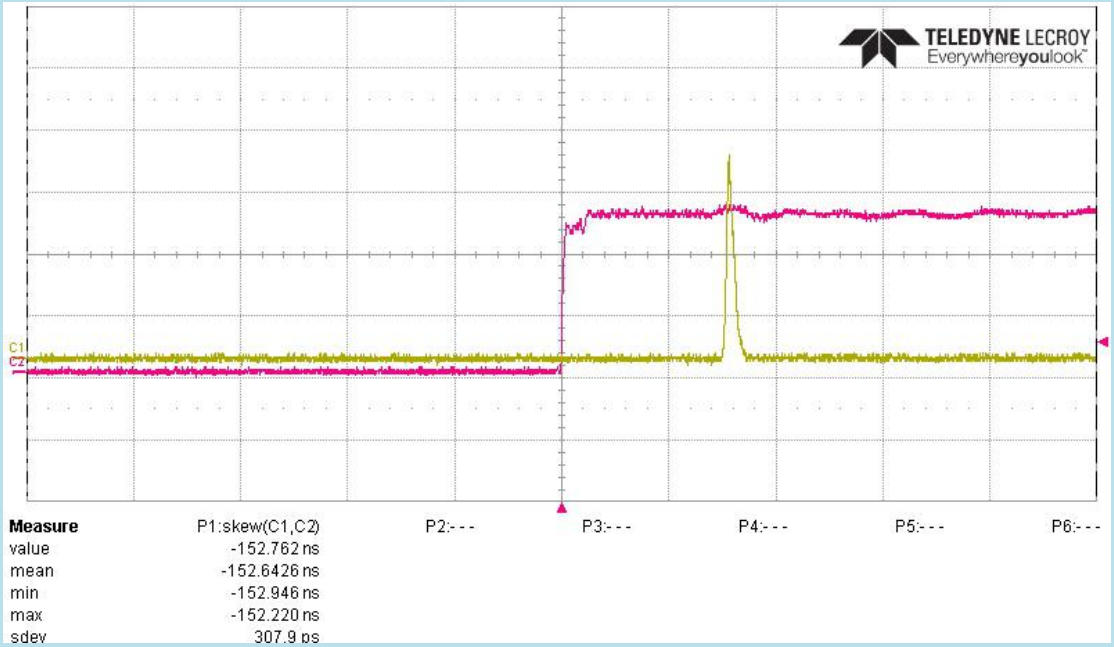
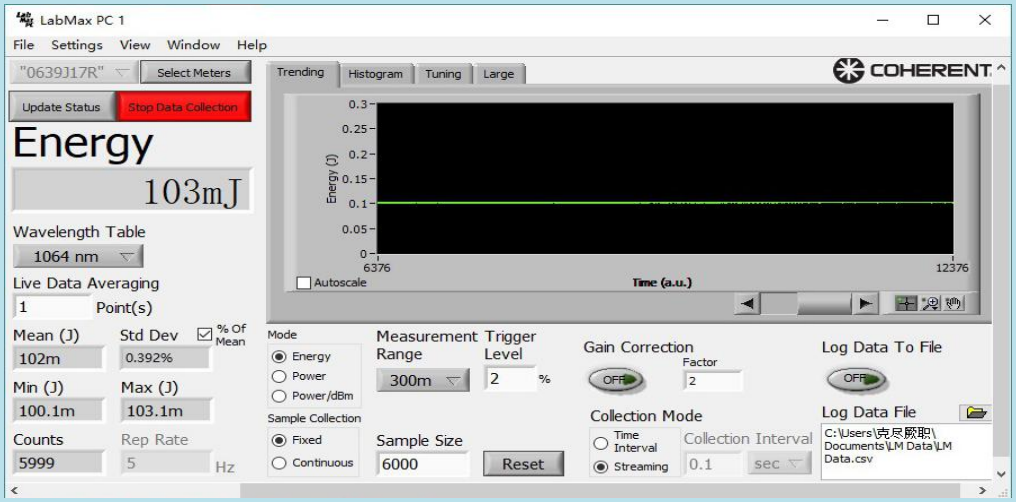
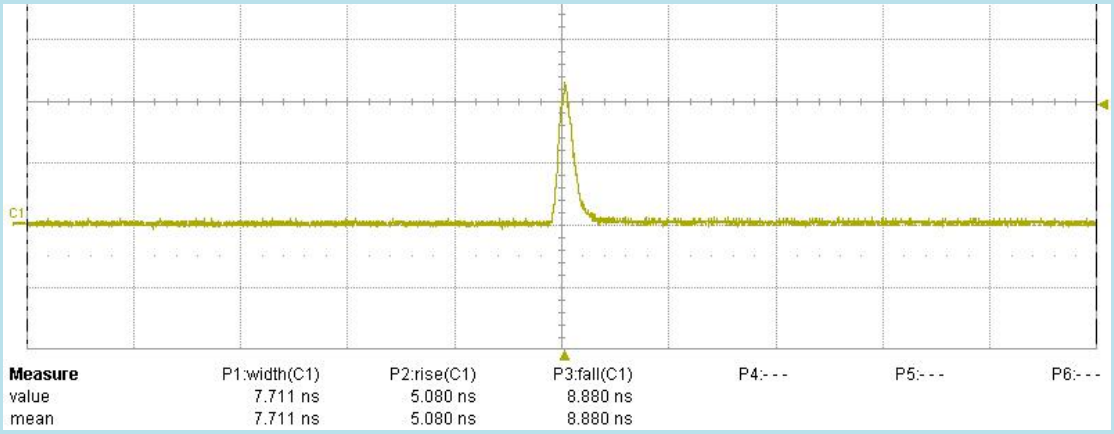


Using TELEDYNE gets Jitter 307.9ps.

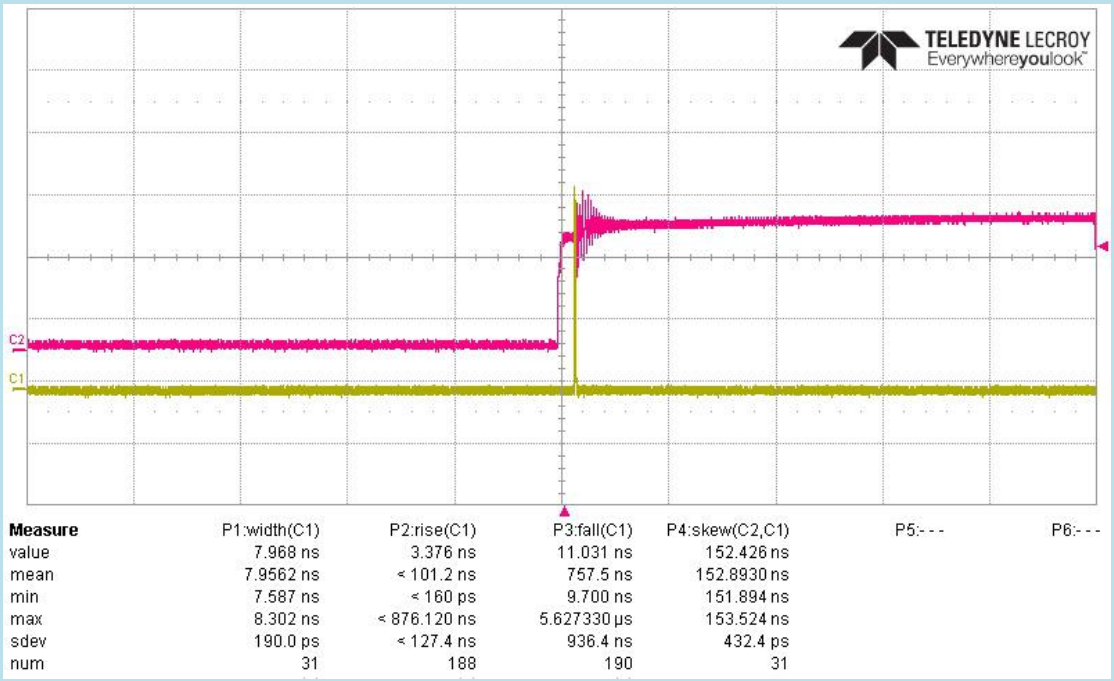
DPS series:



Using COHERENT power meter gets power stability <1% over 4 hours.

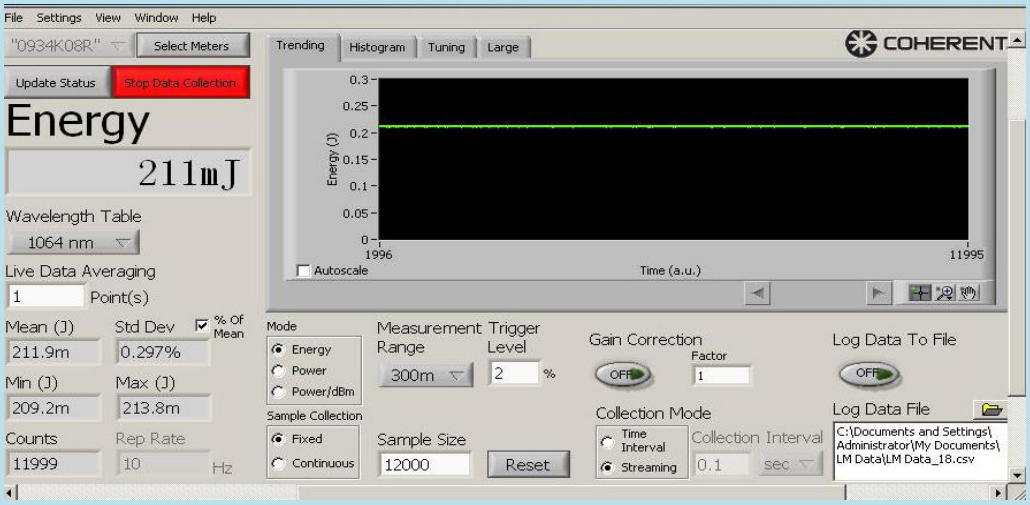


The pulse duration is 7.771ns.

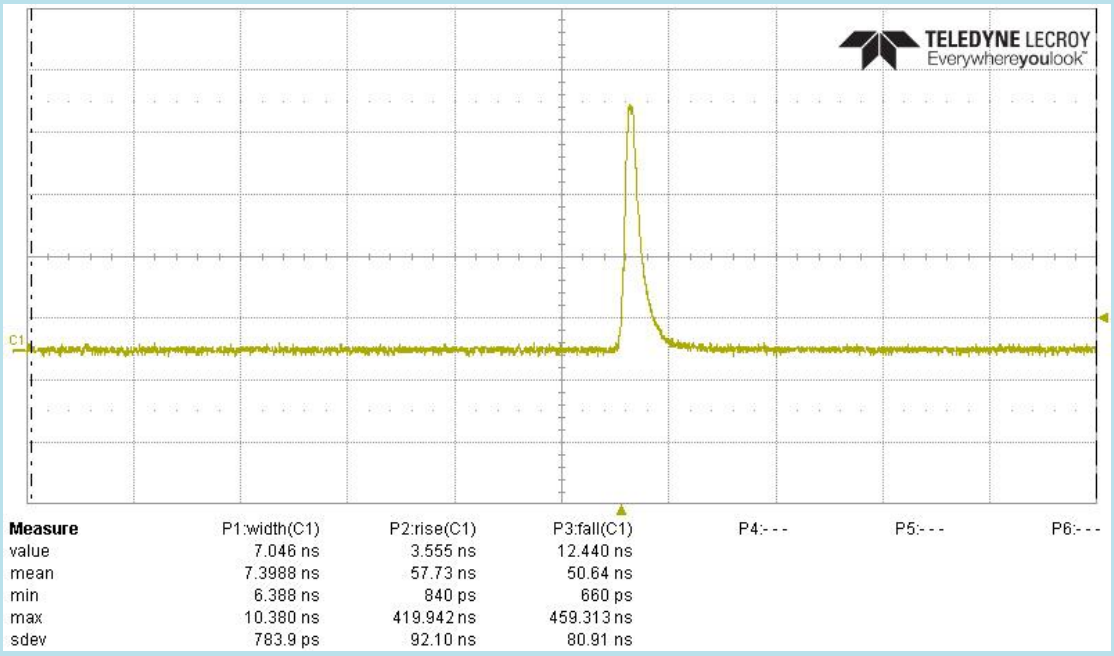


Using TELEDYNE gets Jitter 190ps.

LPS series:



Using COHERENT power meter gets power stability <1% over 4 hours.



The pulse duration is ~7ns.

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Published articles

1. *Resonant semiconductor laser absorption of atomic Rb in a pulsed Nd: YAG laser-induced plasma.(LPS-1064-L)*
2. *A Chip of Pulse-Laser-Assisted Dual-Beam Fiber-Optic Trap.(DPS-1064-BS-D)*
3. *Photoacoustic sensing and imaging by sharing single data acquisition channel.(DPS-532-A)*
4. *Hybrid multi-wavelength nonlinear photoacoustic sensing and imaging.(DPS-532-A)*
5. *Depth profile of the nonlinear susceptibility of LiNbO3 ridge waveguides fabricated by ion implantation and dicing.(DPS-532-A)*
6. *Dynamic Aerosol In-Situ Imager.(MPL-H-532)*
7. *The development of an underwater pulsed compressive line sensing imaging system.(MPL-III-532)*
8. *Optical imaging in presence of scattering.(MPL-N-532)*

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