Ultra Narrow Line Width Stable Laser

(1550 nm, PM, narrow line, 100mW)

DATASHEET

BUY NOW

Agiltron produce Ultra Narrow Line Width Stable Lasers. It features, single mode, single frequency, single longitudinal mode, polarization maintaining output, high optical power, excellent output stability over a wide temperature range and without mode hopping, high efficiency, low cost, and high reliability. The unit is made based on Er-doped fiber and distributed feedback Bragg grating seed technologies. It incorporates extra-cavity to achieve low phase and low relative intensity noise (RIN). The laser source is covered by a 1-year warranty.

The laser source can be configured as a module or a turn key unit with build-in controller for lab use. Agiltron also provide customers design. We provide output beam collimator, as well as attional wavelength stabilization choices.

Applications

- Coherent LiDAR
- Hydrophone
- Optical Sensing
- Laser Spectroscopy
- Atomic Physics
- Coherent Communication

Features

- Compact
- Ultra-Stable
- Low Cost
- High Reliability
- High Efficiency

Specifications

Parameter		Min	Typical	Max	Unit
Fixed Wavelength		1530		1572	nm
Output Power		5		100	mW
Output Mode	Linear Polarized	CW, Single Frequency, Single Longitudinal			
Linewidth (FWHM)			150	1	kHz
Polarization Extinction Ratio		20	23		dB
Beam Quality			1.05	1.1	M^2
Output Power Stability (30 m warm-up)			0.5	1	%
Output Isolation		10		100	%
RIN Peak Frequency		300	400	500	kHz
RIN Peak			-105		dBc/Hz
Phaser Noise (1m OPD)			70@100Hz 7@10kHz 0.7@100kHz		Urad/√Hz
SMSR (50pm resolution)		60		70	dB
Wavelength Thermal Tuning		0.6		1	nm
PZT Wavelength Tuning			Optional		
Output Isolation		50			dB
Modulation Frequency		DC	10	20	kHz
Modulation Wavelength Range		8		10	GHz
Output Fiber Type		Panda	1550		
Operating Temperature	Standard	0		60	°C
	Special version	-30		85	
Storage Temperature		-40		100	°C
Weight				0.5	kg
Dimension		145 x 100 x 25			mm

Rev 05/30/23

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Electrical Control

Single Frequency Fiber Laser	Minimum	Typical	Maximum	Unit
Control Interface		RS485		
Digital Signal Level (TTL)	0		5	V
DC Power Supply			12	V
Power Consumption			50	W

1. Wavelength can be thermally tuned via software upon request;

Ordering Information

	☐	☐	☐	☐	☐	☐	☐☐	☐
Prefix	**Package**	**Isolator**	**Collimator**	**Monitor Port**	**Wavelength Tuning**	**Intensity Modulation**	**Average Power**	**Connector**
UNLL-	Turnkey = 1 Module = 2 Special = 0	Yes = 1 No = 0	No = 0 Yes = 1	Yes = 1 No = 2 Special = 0	No = 1 Yes = 2 Special = 0	No = 1 Yes = 2 Special = 0	10 mW = 01 20 mW = 02 50 mW = 05 100 mW = 10	FC/PC = 1 FC/APC = 2 LC = 3 Special = 0

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

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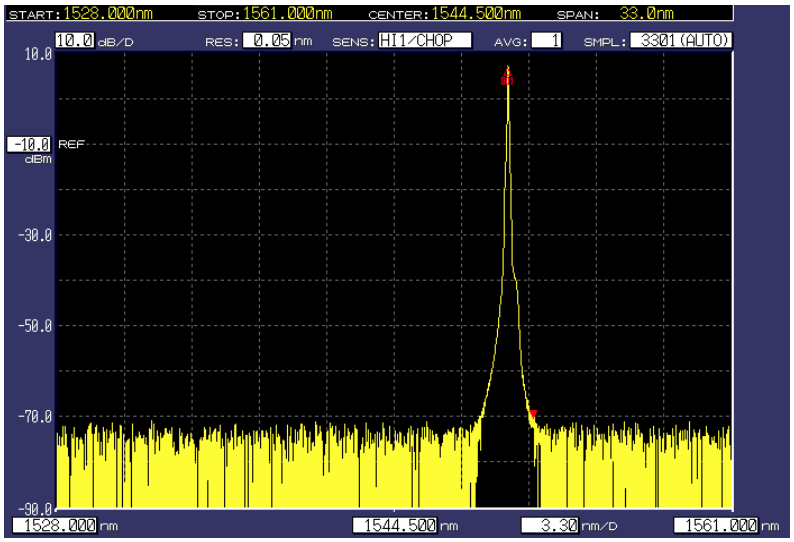
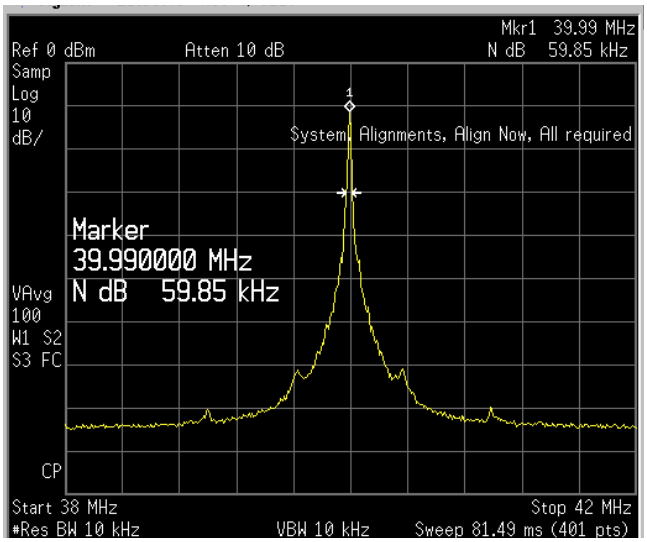
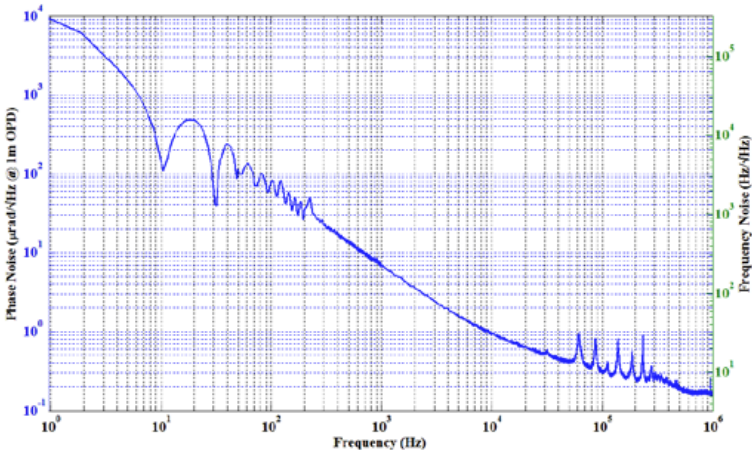
Typical Measured Spectrum



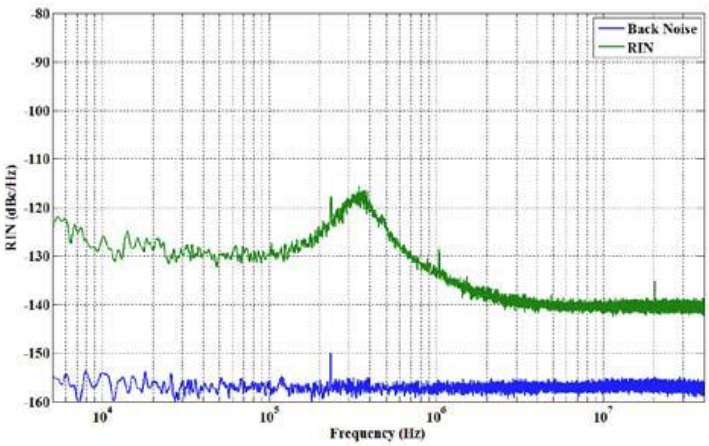
Typical Spectrum



Linewidth



Phase & Frequency Noise



Relative Intensity Noise (RIN)

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