

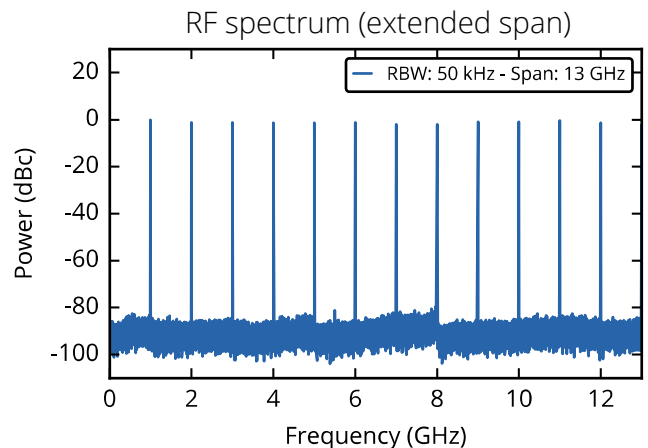
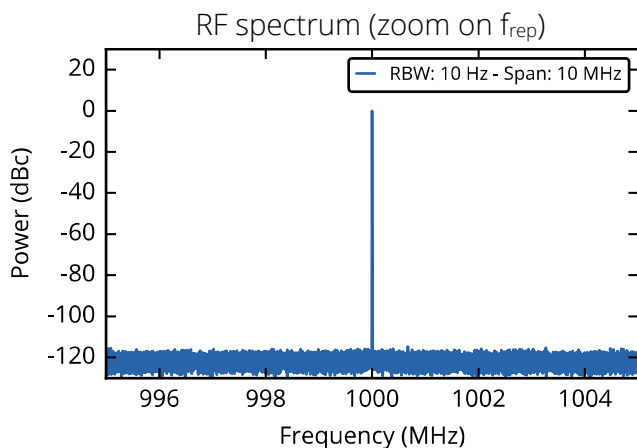
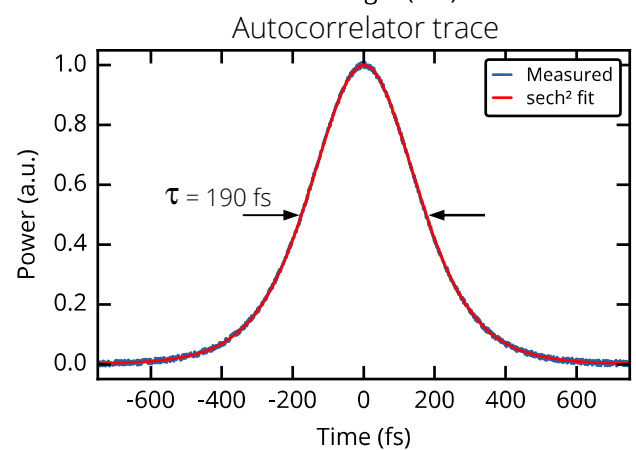
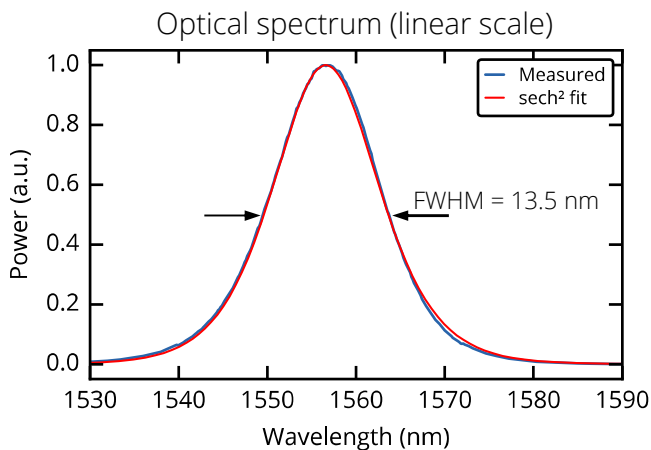
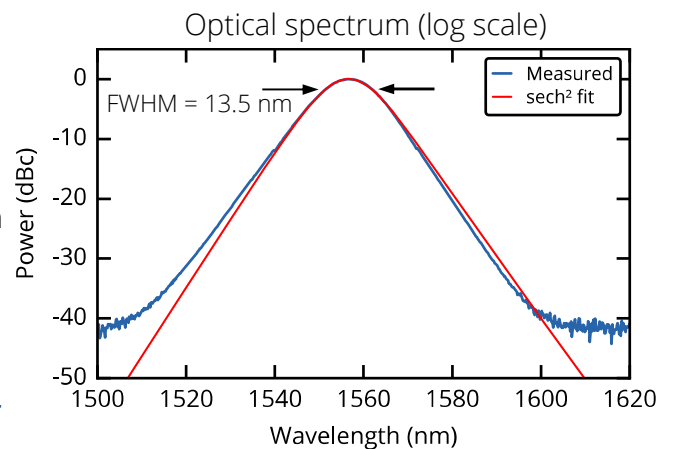
# MENHIR-1550 SERIES – 1 GHz

The MENHIR-1550 SERIES is the first industrial-grade laser of its kind that operates at telecom wavelengths and achieves the lowest phase noise and timing jitter on the market. In this document, we report the full characterization of the product operating at a repetition rate of 1 GHz.

## Key product specifications

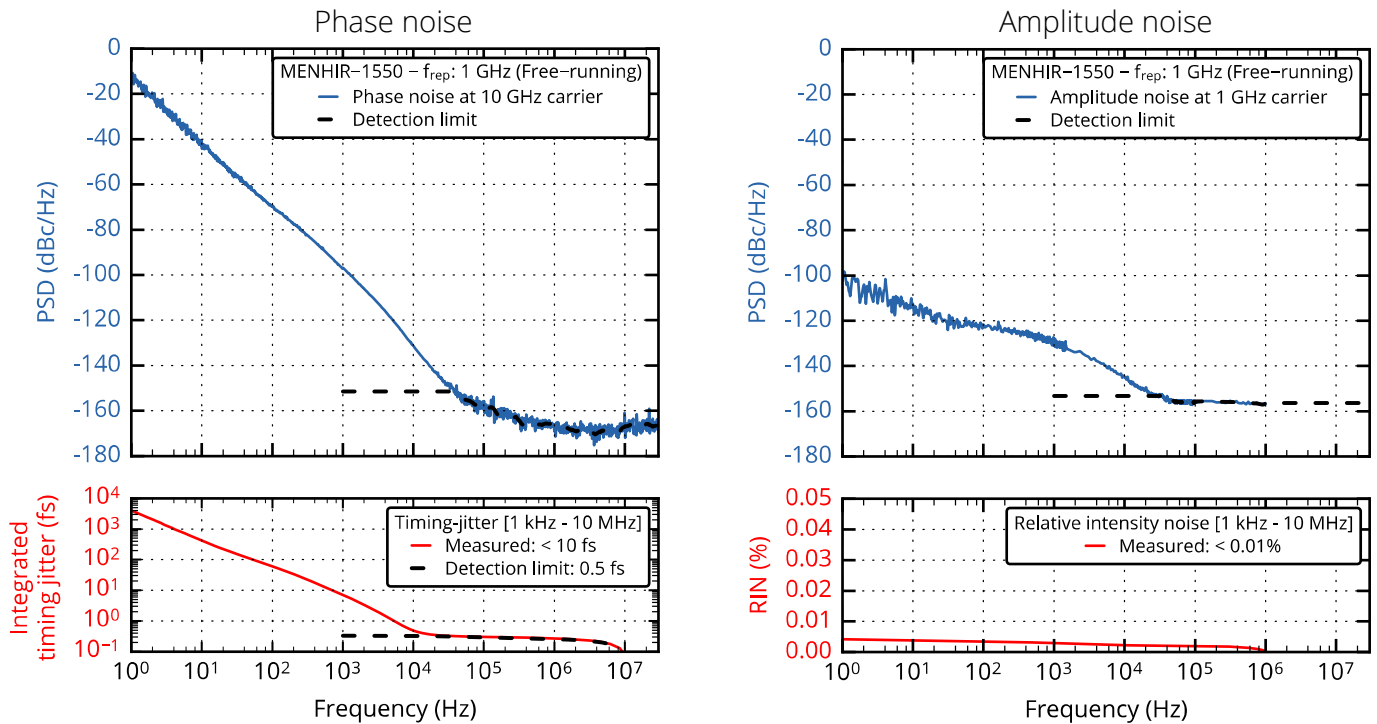
- $f_{\text{rep}}$ : 1 GHz
- Power: > 50 mW \*
- $\lambda_0$ : 1545 – 1565 nm
- Clean soliton pulse
- Bandwidth: > 10 nm
- Pulse width: < 250 fs (Transform limited)
- Sech<sup>2</sup>-shaped spectrum
- Beam characteristics: TEM<sub>00</sub>, M<sup>2</sup> < 1.05

\* Valid for lasers without options



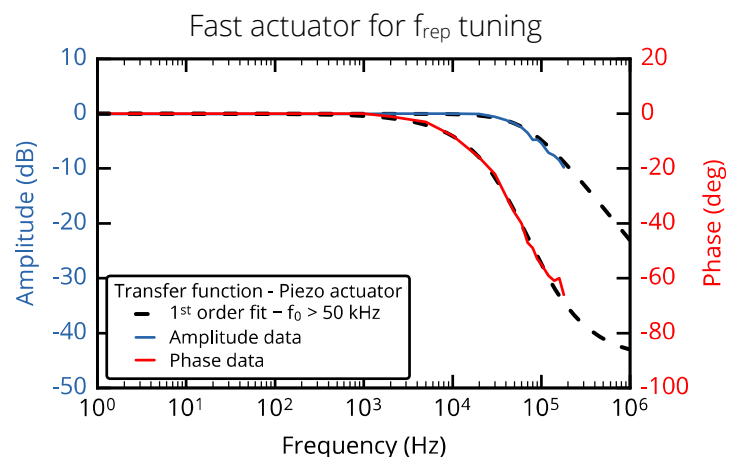
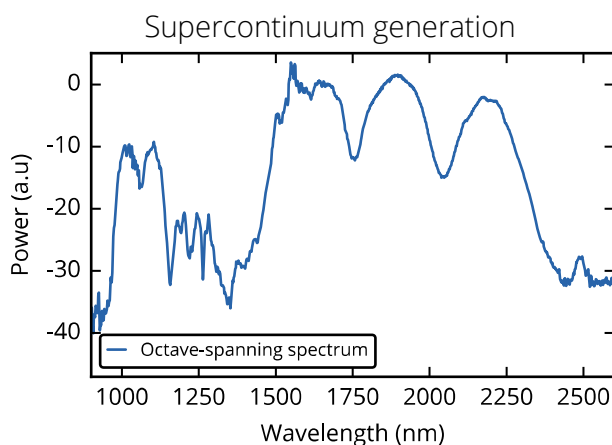
# Noise characterization (Free-running)

The free-running phase and amplitude noise of a MENHIR-1550 at 1 GHz is reported here. The phase noise was measured on the 10<sup>th</sup> harmonic, *i.e.*, at 10 GHz.



Offset frequency ( $f_c$ )	Phase noise (dBc/Hz)		Timing-jitter (fs) [ $f_c - 10$ MHz]	Amplitude noise (RMS) [ $f_c - 10$ MHz]
	1 GHz carrier	10 GHz carrier		
10 kHz	< -150	< -130	< 1	< 0.01%
1 kHz	< -115	< -95	< 10	< 0.01%
100 Hz	< -90	< -70	< 100	< 0.01%
1 Hz	< -30	< -10	< 5000	< 0.02%

# Possibilities and options



The data represents an example of a MENHIR-1550 at 1 GHz. Please inquire for custom modifications.