

Quokka 1550

1 GHz Frequency Comb Chip Laser



RedChip lasers are compact, high efficiency laser platforms capable of operating at wavelengths from the visible to >3000 nm. Based on the unique combination of specialty ZBLAN glass and laser-inscribed waveguides, the chip laser brings performance characteristics normally only available in solid-state solutions to the size and economy regime of diode and fibre lasers.

The Quokka 1550 is a passively mode-locked chip laser providing a highly stable 1 GHz frequency comb with polarised fibre output in a benchtop format. Designed as a turn-key device for frequency comb applications where reliability and economy is paramount, the Quokka 1550 features:

- Ultrashort pulses (<400 fs)
- High peak-power
- Diffraction limited output
- Long term reliability

Applications include:

- Spectroscopy
- Dual-frequency comb metrology
- Supercontinuum generation
- Optical/Microwave frequency transfer

Features

- Patented waveguide chip laser technology
- Temperature stabilized cavity
- Long-lifetime telecom-grade pump diodes
- Compact benchtop form factor
- Piezo cavity length control
- Pump diode current modulation input

Specifications

Optical

Repetition Rate	1.0 GHz
Wavelength	1550 nm (nom)
Bandwidth (-20 dB)	>20 nm
Average Power	>10 mW
Pulse Duration (sech ²)	<400 fs
Relative Intensity Noise (@1 MHz)	<-130 dBc/Hz
Output Connection	PM 1550 FC/APC

Electrical

Voltage and Current	120-240 VAC, 2A
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Physical

Dimensions (LWH)	41 x 23 x 8 (cm)
Mass	3.5 kg

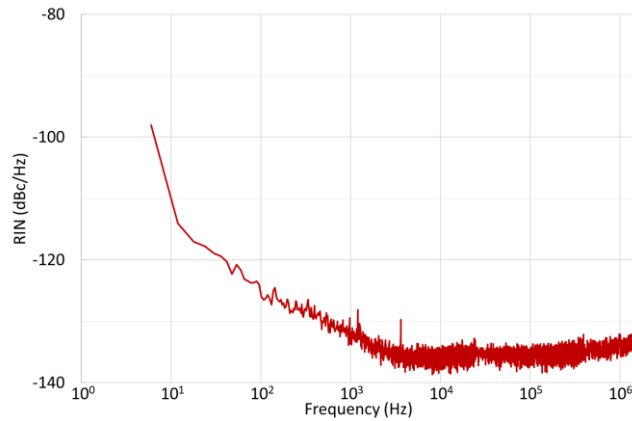
 **RedChip Photonics Pty Ltd**

Mawson Lakes, South Australia

ABN 68 166 388 058

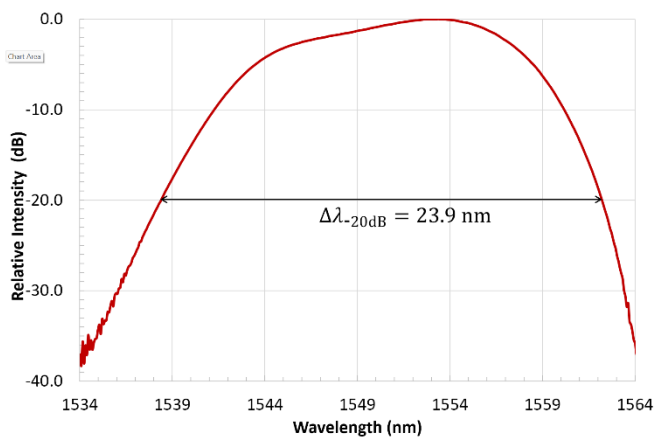
info@redchipphotonics.com

Intensity Noise Spectrum

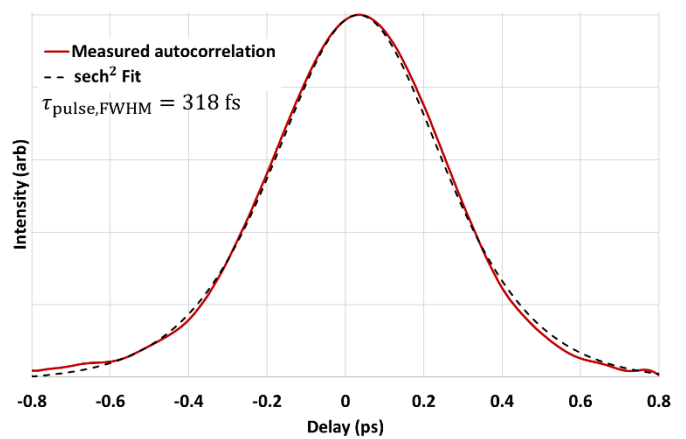


Low intrinsic amplitude noise.

Optical Spectrum

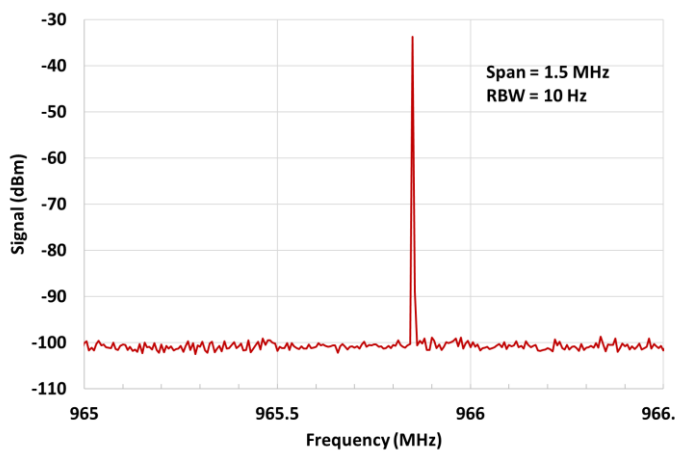


Pulse Duration



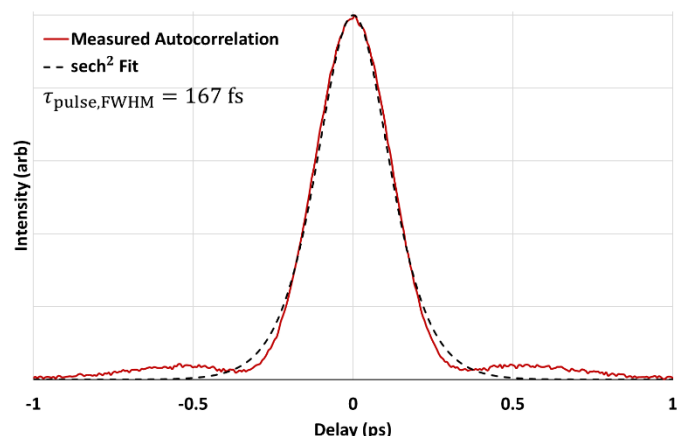
Broad available bandwidth and short pulse duration for amplification, frequency shifting and optical comb applications.

RF Spectrum



Intrinsically stable single pulses.

Compressed Pulse



Example of amplified and compressed output pulse.