

Lock-in based multichannel acquisition system for broadband stimulated Raman imaging

Performance

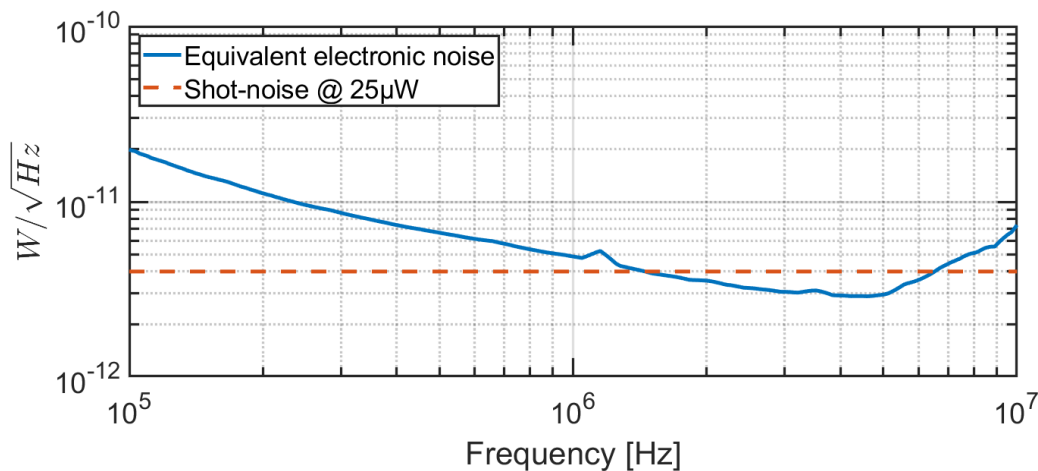
Frequency Range [MHz]	1 - 10
NEP [pW/√Hz]	< 20
Detector	38-channel Si array
Fixed filter time constant [μs]	0.5
Vertical resolution [bit]	16
Max. input power [mW/ch]	5*
Spectral resolution [cm ⁻¹]	< 9*

Unique features

- 38 lock-in amplifiers with independent outputs for demodulated signal (AC) and average power (DC)
- Triggerable integration time averaging up to 200ms
- Demodulation frequency range: 1MHz-10MHz
- User controllable demodulation phase between 0-360° in 16 steps for each channel
- Shot-noise limited acquisition down to ~25uW/ch
- Real-time demodulated signal normalization
- Pixel and frame triggerable synchronized acquisition
- USB 3.0 connection to PC for easy and fast data transfer



Single-channel input referred noise



*Input wavelength range: 1015 – 1050 nm