



The Chromacity **Spark-OPO** – ultrafast near to mid-infrared optical parametric oscillator



Exceptional tunability and high average power enabling a broad range of spectroscopic and sensing applications. The Spark OPO is a compact and easy to use system, ideal for researchers with demanding requirements in the near to mid-infrared region.

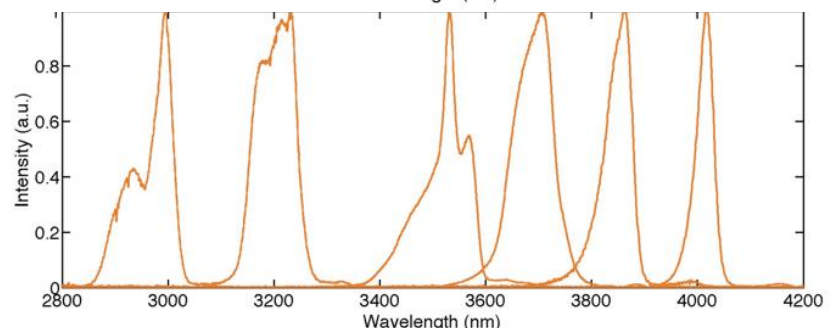
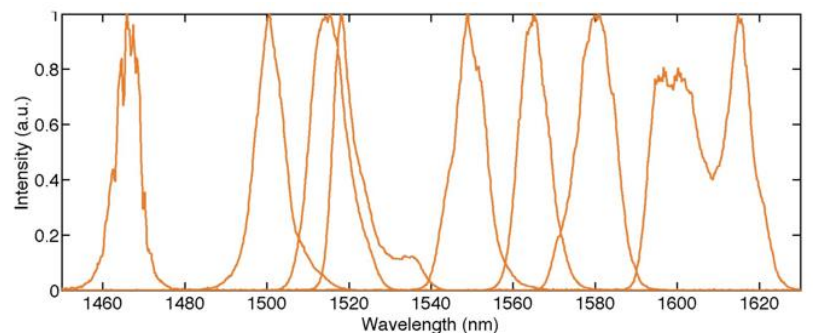
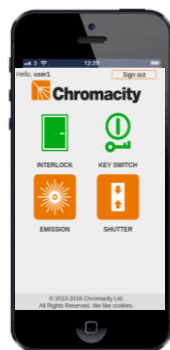
- Wavelength range from 1.48 – 3.6 μm (up to 4.2 μm with alternative mirror set)
- Up to 800 mW from signal port and 250 mW from idler port (optional 1040nm port)
- Pulseswidth from 1-2 ps
- 100 MHz repetition frequency
- Linearly polarized free-space output
- Lock-to-clock option
- Custom systems available

Applications include:

- Non-linear physics research
- Infrared spectroscopy
- FTIR micro-spectroscopy
- Multi-photon microscopy
- Stand-off chemical sensing
- Material characterization and metrology
- Raman conversion
- Deep tissue multi-photon imaging
- Gas sensing spectroscopy

Web-based laser control

- Easy to use interface
- Safety shutter and laser emission
- Control over ethernet and wifi
- Door interlock error alerts
- Control multiple lasers
- RS232 control as standard



Representative signal (top) and idler (bottom) spectra obtained from Spark-OPO

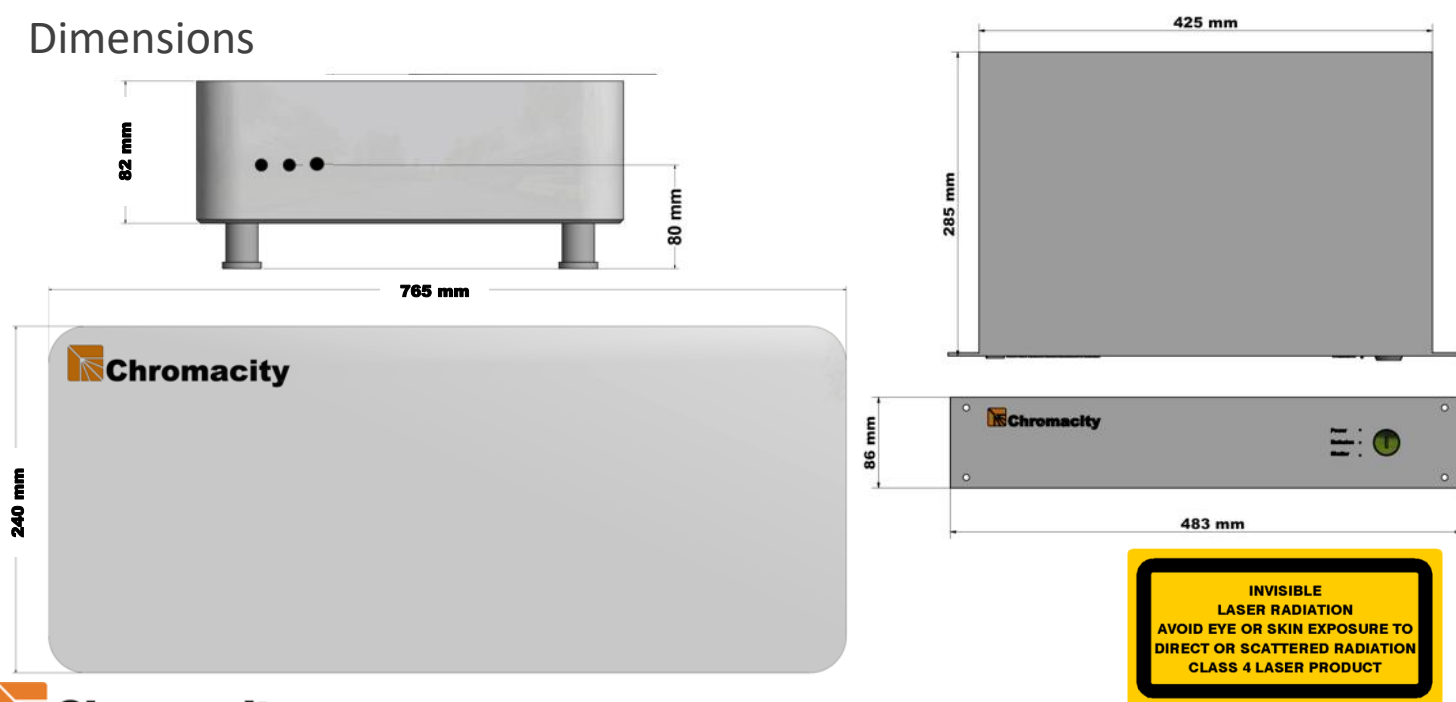
Specifications and options

Options

Signal wavelength	1.48 μm – 1.8 μm	OPO crystal can be optimized for specific wavelength ranges down to 1.35 μm
Signal power	Up to 800mW (@ 1.5 μm)	Power depends on mirror set used, can be customer optimized
Idler wavelength	2.2 μm – 3.6 μm (up to 4.2 μm with alternative mirror set)	OPO crystal and mirrors can be optimized for specific wavelength ranges, please contact for details
Idler power	Up to 250 mW (@ 3.3 μm)	Power depends on mirror set used, can be customer optimized on request.
Pump source	Integrated Spark 1040 laser oscillator	Further details of pump source on request
Pump wavelength	1040 nm	
Repetition frequency	100 MHz Monitor photodiode	Lock-to-clock option available
Beam quality	Linearly polarized Divergence < 2 mrad	
Control interface	Ethernet, and web page Serial port (for control via LabView/MatLab)	Custom interface available
Dimensions	765 x 240 x 82 mm (laser head) 483 x 285 x 86 mm (control unit)	
Weight	18 kg (laser head) 2 kg (control unit)	
Electrical	Voltage 110 – 240 V AC Frequency 50 – 60 Hz Power 80W	
Cooling	Air cooled (no water cooling required)	

Specifications subject to change

Dimensions



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