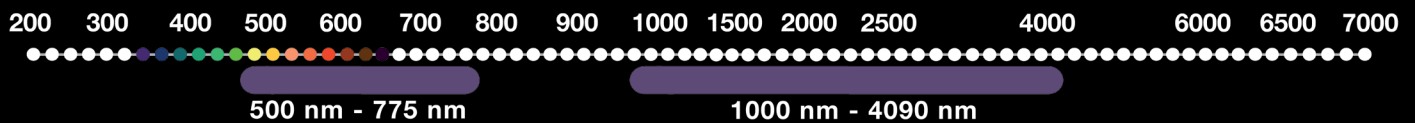


Visible Wavelength Extension for Femtosecond IR OPO

Fully-Automated Second Harmonic Generator Tunable across 495 - 775 nm (12903 - 202020 cm⁻¹)



ORIA VIS



KEY FEATURES

- Four output ports: 1) 1000 - 1580 nm (6329 - 10000 cm⁻¹) at full power, 2) 500 - 775 nm (12903 - 20000 cm⁻¹), 3) 1696 - 4090 nm (2444 - 5890 cm⁻¹), and 4) 1000 - 1580 nm (6329 - 10000 cm⁻¹) undepleted.
- Simultaneous Outputs: 1), 3) and 4)
- Average Power: >400 mW
- Pulse Duration: <180 fs
- Repetition Rate: 80 MHz

APPLICATIONS

- Linear & Non-Linear Spectroscopy & Microscopy. (SHG, THG, Two-Photon, Multiphoton)
- Plasmonics.
- Pump-Probe Spectroscopy.
- Raman Spectroscopy & Microscopy. (CARS, SRS)
- Time-Resolved Spectroscopy & Microscopy. (FLIM, TR-FRET, TCSPC)



Description

Broad tuning in the visible spectrum is now possible with the ORIA VIS, a wavelength extension unit for most commercial femtosecond IR OPOs. This sophisticated second harmonic generation (SHG) module converts the IR spectrum of a femtosecond IR OPO [1000 - 1580 nm (6329 - 10000 cm⁻¹)] into the visible range [500 - 775 nm (12903 - 20000 cm⁻¹)] in a practical and easy-to-use architecture.

The ORIA VIS features the highest efficiency in its class, providing more than 40% conversion and 400 mW at the peak of the tuning range. As a result, output powers of more than 400 mW can be achieved when pumped by 1 W femtosecond pulses in the IR. High peak-to-peak power stability and excellent beam pointing across the complete spectral range make the ORIA VIS a convenient tool for a range of scientific applications, including time-resolved spectroscopy and quantum optics.

Designed for pick-and-place installation, ORIA VIS ensures virtually maintenance-free operation and highest usability since it does not require manual alignment, being exclusively controlled by a PC. Control drivers are also available.

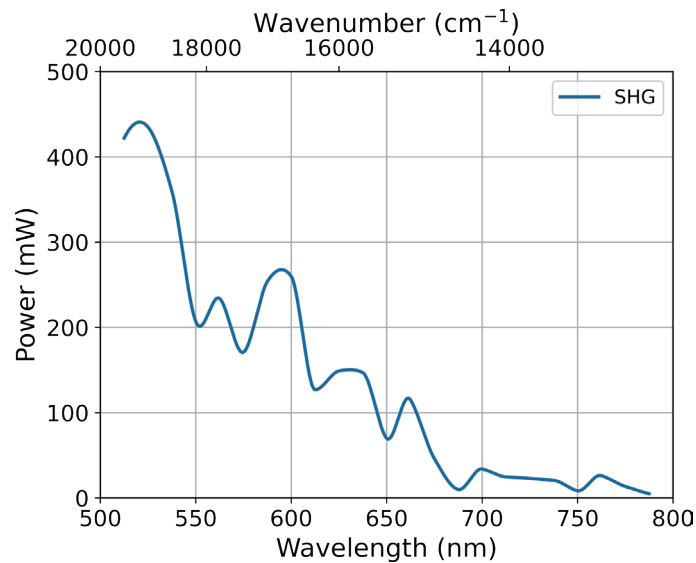
Specifications⁽¹⁾

Output Characteristics	ORIA VIS
Tuning range	500 - 775 nm (12903 - 20000 cm ⁻¹)
Output power ⁽²⁾	> 400 mW
Pulse width ⁽³⁾	< 180 fs
Beam diameter at 525 nm	2.5 mm
Beam divergence	< 1 mrad
Beam displacement with wavelength	< 2.5 μm
Spatial mode	TEM ₀₀
Polarization	Vertical
Repetition rate	80 MHz
Size (W x L x H)	568.0 x 366.5 x 189.2 mm (22.4 x 14.4 x 7.5 inch)

Notes: (1) Specifications are subject to change without notice. (2) At the peak of the tuning range, when pumped by ORIA IR OPO. (3) When pumped with ORIA IR OPO.



ORIA VIS Typical Tuning Curve



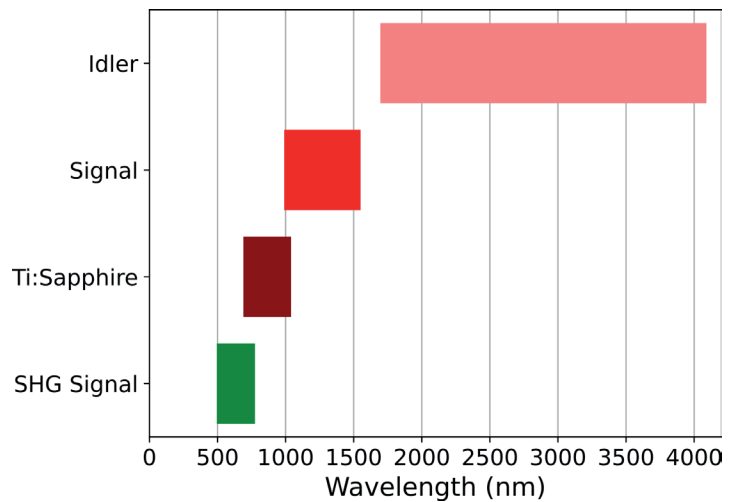
ORIA VIS Wavelength Coverage

Complete Spectral Coverage of Ti:Sapphire pump, ORIA IR XT, and ORIA VIS

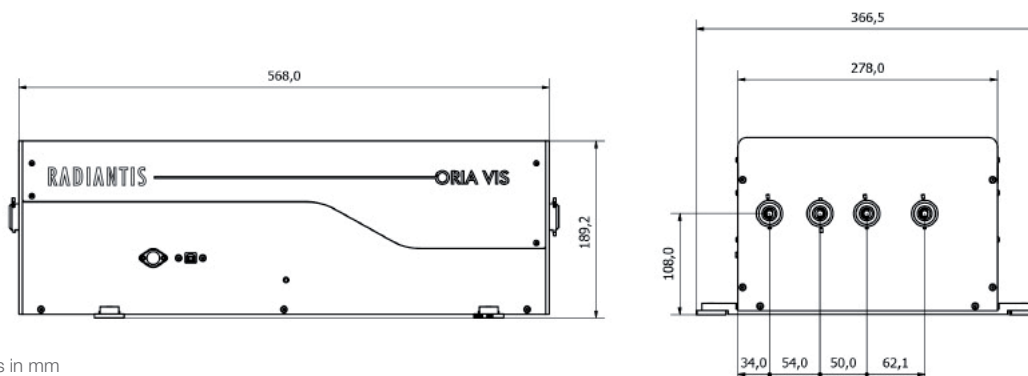
The Oria VIS includes four output ports which deliver :

- 1) The OPO Signal 1000 - 1580 nm ($6329 - 10000 \text{ cm}^{-1}$)
- 2) The SHG of the OPO Signal 500 - 775 nm ($12903 - 20000 \text{ cm}^{-1}$)
- 3) The OPO Idler 1696 - 4090 nm ($2444 - 5890 \text{ cm}^{-1}$)
- 4) The depleted OPO Signal 1000 - 1580 nm ($6451 - 10000 \text{ cm}^{-1}$)

It incorporates a pump bypass which enables the selection of 100% of the OPO signal and idler (with no SHG of the signal) or 100% of the SHG of the signal (simultaneously with the undepleted OPO signal and 100% of the idler).



Dimensions

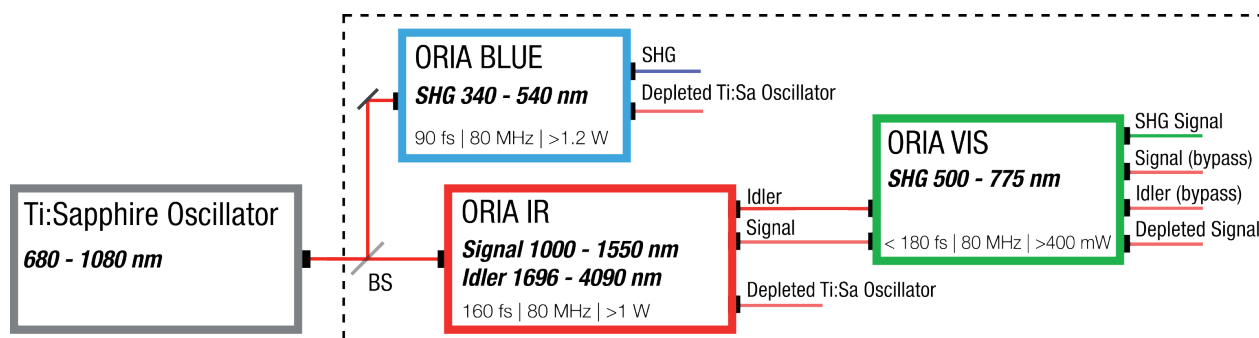


Notes: Dimensions in mm



ORIA Series

Ti:Sapphire Wavelength Extensions

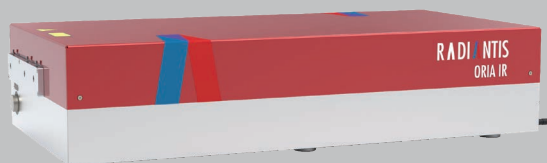


- Broad wavelength tuning across 340 - 4090 nm (2444 - 29411 cm⁻¹)
- Fully automated, hands-free tuning for simplified use
- Simultaneous pump, signal and idler outputs

Related Products

ORIA IR

Femtosecond IR OPO



Key Features:

- Output Ports:
 - 1) Signal: 1000 - 1580 nm (6329 - 10000 cm⁻¹)
 - 2) Idler: 1696 - 4090 nm (2444 - 5890 cm⁻¹)
 - 3) Pump Bypass: 680 - 1080 nm (9259 - 14705 cm⁻¹)
- Simultaneous Outputs: All. 3) with limited range
- Average Power: >1 W at peak of the range
- Pulse Duration: Signal 160 fs typ.
Idler 96 fs typ.
- Repetition Rate: 80 MHz

ORIA BLUE

Femtosecond & Picosecond Second Harmonic Generator



Key Features:

- Output Ports:
 - 1) SHG: 340 - 540 nm (18518 - 29411 cm⁻¹)
 - 2) Undepleted Pump: 680 - 1080 nm (9259 - 14705 cm⁻¹)
- Simultaneous Outputs: All
- Average Power: >1.2 W
- Pulse Duration Models:
 - - Femtosecond <180 fs - Picosecond <5 ps
- Repetition Rate: 80 MHz