



DESCRIPTION

The Chromacity 520 is an air-cooled, compact, add-on Second Harmonic Generation (SHG) module for the Chromacity 1040 high power ultrafast laser providing femtosecond pulses with exceptional performance. Used with the 1040 high power option, the 520 provides high average power, outstanding pulse quality and power stability. The 520 is an ideal laser source for semiconductor metrology, quantum communications and quantum imaging.

The 520 SHG module combined with the 1040 laser is ultra-stable across temperature and time, offering repeatable pulse power, pulse-to-pulse and over extended periods of operation.

The Chromacity 520 SHG module can be purchased with the Chromacity 1040 laser as a fully tested system or purchased separately as an upgrade. The 520 SHG module comes with its own separate external power supply unit (PSU) providing flexible placement options.

The Chromacity 520 SHG module operates as a slave of the 1040 laser, and can be bolted onto the 1040, or co-located on a bread board (as shown). Control of the 520 is via the 1040 intuitive web browser user interface, or via an RS-232 serial port.

FEATURES (WHEN USED WITH CHROMACITY 1040HP)

- 520nm centre wavelength
- Pulse duration <150fs typ.
- Average output power 0.75W typ.
- Repetition rate 100MHz
- Peak power 44kW typ. (100MHz, 150fs, 0.75W)
- Pulse energy 7.5nJ (100MHz, 150fs, 0.75W)
- Beam diameter 1.2mm

APPLICATIONS

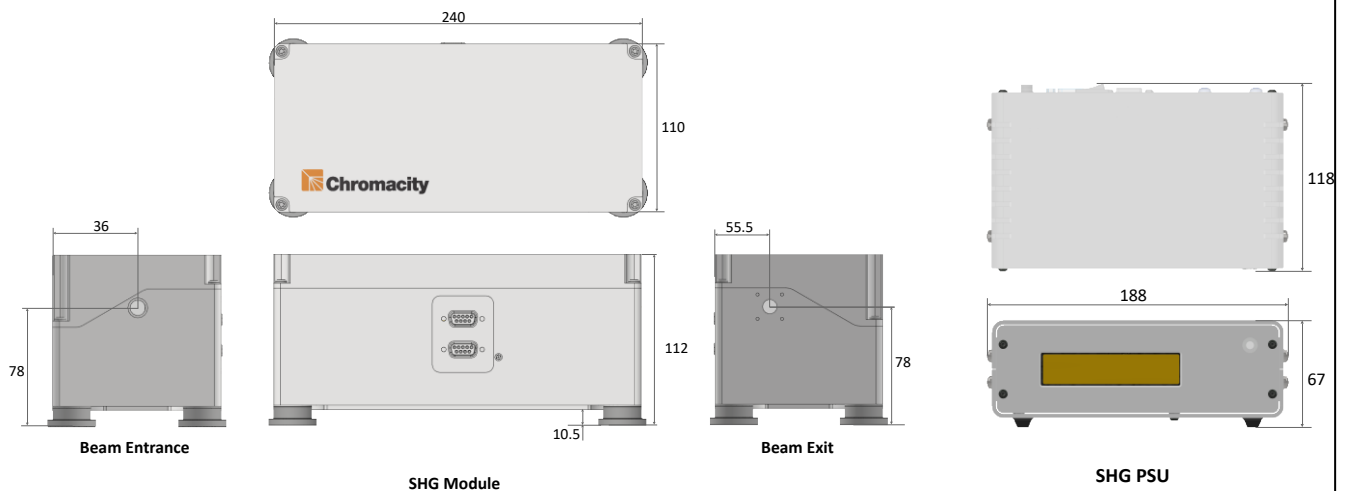
- Semiconductor metrology
- Free space quantum communications
- Quantum imaging
- FLIM
- Nanophotonics



SPECIFICATIONS (WHEN USED WITH 1040HP PUMP SOURCE)

Parameter	Specification
Central Wavelength	520nm, FWHM ~5nm
Pulse Width	<150 fs typ.
Repetition Rate	100MHz
Average Power	Typ. 0.75W (when used with Chromacity 1040HP)
Spatial Beam Profile	Single mode
Pulse Energy	>7.5nJ (100MHz, 150fs, 0.75W)
Output Polarisation	Linear
Beam Quality (M^2)	<1.1, <1.2 max.
Beam Divergence	<0.8mrad typ.
Beam Diameter	1.2 mm, ± 0.2 mm (at exit of laser)
Beam Ellipticity	>0.9 typ.
Beam Pointing Stability	<20 μ rad/ $^{\circ}$ C
Relative Intensity Noise (r.m.s. 6Hz – 3MHz)	<0.15%
Long Term Power Stability	<0.5% (100h)
Laser settings and functions	Web browser via Wi-Fi, Ethernet or RS-232
Laser diagnostics	Available from PC
Operating Temperature for Specified Performance	21 $^{\circ}$ C, $\pm 3^{\circ}$ C

SYSTEM DIMENSIONS (mm)



CONTACT

Web: www.chromacitylasers.com
 Email: sales@chromacitylasers.com
 Tel: +44 (0) 131 449 4308

CHROMACITY LIMITED

43C Research Avenue North
 Riccarton
 Edinburgh
 United Kingdom
 EH14 4AP