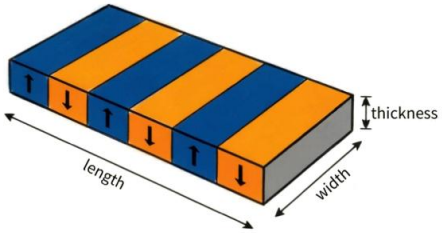
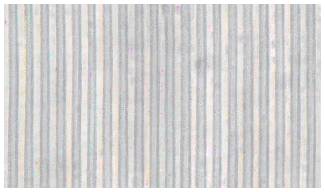
Single-Period PPLN Crystal Chips

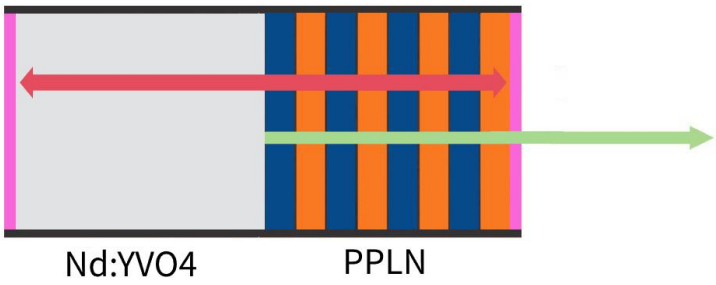
Basic Structure

- QPM Period: 4.0μm ~ 200μm
- Wavelength Range:330nm ~ 5.5μm
- QPM Temperature: 25℃ – 200℃
- Flatness: λ/6 @ 633 nm
- Coating: Anti-Reflection(AR)/High-Reflection(HR)/Filter coatings available on input/output facets.
- Material Options: Standard Lithium Niobate (LN) /Magnesium Oxide (MgO) doped Lithium Niobate.





Nd:YVO4 + PPLN Optically Contacted Bonded Chips



This composite chip integrates a laser gain medium with a nonlinear crystal for a compact, integrated optical engine.

- Nd:YVO4 (Front End): As the laser gain medium, it absorbs external pump light (typically from an 808 nm laser diode) and generates fundamental infrared laser light at 1064 nm. Nd:YVO4 is chosen for its high absorption and conversion efficiency, as well as its linearly polarized output, making it an excellent core for compact lasers.
- Optical Contacting Interface: The two crystals are bonded via atomic-level molecular forces without any air gaps or chemical adhesives. This ensures the 1064 nm laser passes from the Nd:YVO4 into the PPLN with virtually no reflection or scattering loss.
- PPLN (Rear End): Acting as the nonlinear optical crystal, it receives the 1064 nm infrared laser and efficiently converts it into other wavelengths (e.g., frequency doubling to 532 nm green light, or other wavelengths via OPO/DFG).

Selected Typical Products

Product	Type	QPM Period	Thickness
S-1064-SHG	1064nm SHG	6.97 μm	0.5, 1, 2, 3 mm
S-1550-SHG	1550nm SHG	19.60 μm	0.5, 1, 2, 3 mm
S-1580-SHG	1580nm SHG	20.22 μm	0.5, 1, 2, 3 mm
S-I-1064-SHG	NdYVO4+PPLN 1064nm SHG	6.97 μm	0.5, 1, 2, 3 mm
.....	.....	.....	.....

Typical Application Scenarios

- 1064 nm SHG (Green Light Generation):
  - Chip Specs: MgO:PPLN substrate, QPM period 6.97 μm.
  - Dimensions: 2.0 (W) × 1.0 (T) × 1.2 (L) mm.
- 1550 nm SHG (Telecom Band Conversion):
  - Chip Specs: MgO:PPLN substrate, QPM period 19.6 μm.
  - Dimensions: 1.5 (W) × 1.0 (T) × 50 (L) mm.
- 808 nm Pumped Green Laser (All-in-One Module):
  - Chip Specs: Nd:YVO4 + PPLN bonded crystal, QPM period 6.97 μm.
  - Dimensions: 2.0 (W) × 2.0 (T) × 3.3 (L) mm.