Spica Technologies Inc.

LASER DAMAGE THRESHOLD SPECIFICATION SHEET AND CERTIFICATE OF COMPLIANCE

DATE: October 1, 2007

CUSTOMER: TwinStar Optics

ADDRESS: 6741 Commerce Avenue
Port Richey, FL 34668-6815

ATTN: Mark Gruittadauria

TEST TYPE: Laser Damage Threshold

TEST LOG NUMBER: 22275

SAMPLE SIZE: 0.616" x 10 mm

COATING TYPE: AR

TEST WAVELENGTH: 1.54 µm

POLARIZATION: Random

PULSEWIDTH (FWHM): 20 ns

SPOT DIAMETER ($1/e^2$): 119 µm

TEST METHOD: Least Fluence Failure

P.O. NUMBER: 3888

PART NUMBER: QX/ER 80/80 Alpha 61

SERIAL NUMBER: n/a

QUANTITY: 1

SUBSTRATE MATERIAL: QX/ER

TEST PREP: Methanol drag

INCIDENCE ANGLE: 0°

PRF: 0.8 Hz

TEST BEAM PROFILE: TEM_{oo}

AXIAL MODES: Multiple

NUMBER OF SITES: 60

SHOTS/SITE: 200

DAMAGE DEFINITION: Plasma, increased He-Ne scatter. Visible damage as observed with 100x Nomarski brightfield microscope.

COMMENTS: Part irradiated at 4.5 GW/cm^2 with no damage in 20 sites. Sample exceeds laser power threshold.

Spica Technologies certifies that this sample has been exposed to the conditions described above. All test and calibration data are maintained on file. All instrument calibration is traceable to NIST.

Test conducted by 

Test Number	22275
Part Number	Alpha 61
Threshold	4.5 GW/cm2

Trials variable

Irradiance	Out of	Damage	No Damage
2.50	10	0	10
3.00	10	0	10
4.00	20	0	20
4.50	20	0	20

Exposure Histogram
22275