



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
**MATERIALS MANAGEMENT DIVISION**  
Powai, Mumbai 400076.

**Technical Specifications for Laser for Single and Two Photon Ceramic  
Microstereolithography**

**RFX NO. 610000764 (Reference No. 1000016859)**

**Femtosecond Fiber Laser: (Qty 1 No.)**

**Specifications:**

- **Central Wavelength (nm):**  $780 \pm 3$  nm
- **Pulse Width (fs):**  $< 90$  fs
- **Average Power (W):** 1.0 W
- **Repetition Rate(MHz):** 80 MHz
- **Pulse Energy (nJ):**  $> 12.5$  nJ
- **Spectrum Width (FWHM, nm):** 8 – 10nm
- **Power Stability over 8 hours (% , RMS):**  $< 1.0$  %
- **Beam Quality (M2 ):**  $< 1.1$  in all planes
- **Beam Diameter at Exit (typical, mm):** 1.3 mm (beam roundness  $> 90\%$ )
- **Polarization Extinction Ratio (dB):**  $> 20$  dB
- **Beam divergence:**  $< 1$  mrad
- **Output/Termination:** Free space, collimated beam
- **Supply Voltage:** 85 - 264 VAC at 47 – 63 Hz,
- **Operating Temperature (°C):** 17 - 30°C
- **Storage Temperature (°C):** 0 - 50°C
- **Cooling:** Air-cooled (No Chiller Required)
- **Warm-up Time (min):**  $< 10$  minute
- **Communication Interface:** RS-232 Serial Port,
- **Expected lifetime:**  $> 10,000$  hours
- **Front Panel Control Interface:** Power Switch, Laser Key Switch, Emergency Stop Button
- **Operation:** Easy to Operate, Pulg & Play, Remote system diagnostics
- **Warranty:** 1 Year after installation

**Note:**

- Please provide certificate of measurement of major specifications at factory
- Provide point by point compliance of the specifications

- Free of Cost Installation & Training of the system at IIT Bombay
- Include AMC for 1 year after expiry of warranty period
- At least 1 Indian customer reference for similar Laser supplied at IITs/NITs/CSIR Units