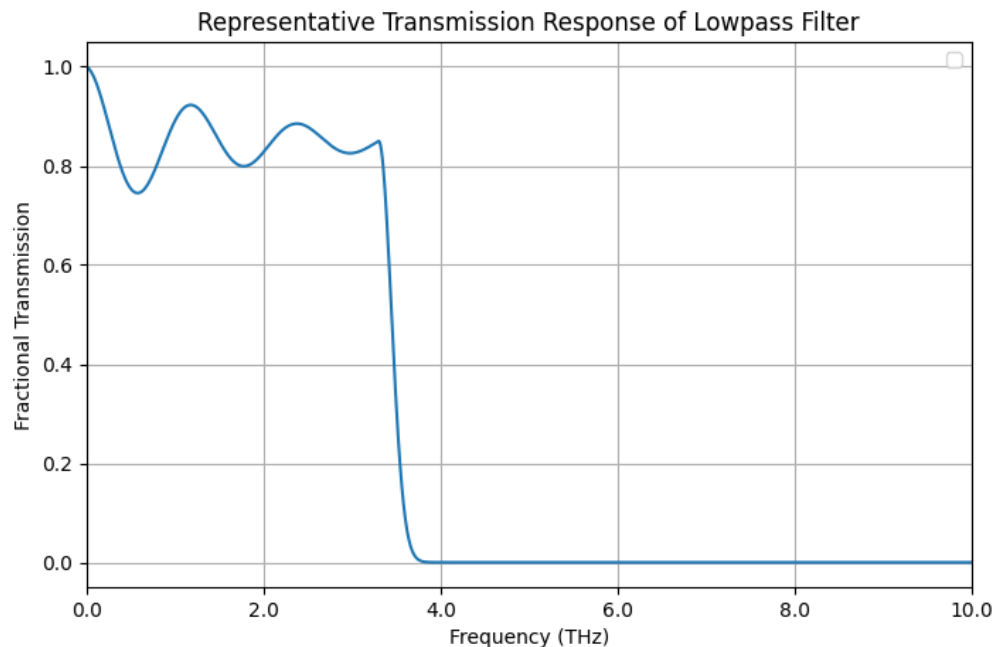


## Multi-layer Metal Mesh Low Pass Filter Spec Sheet

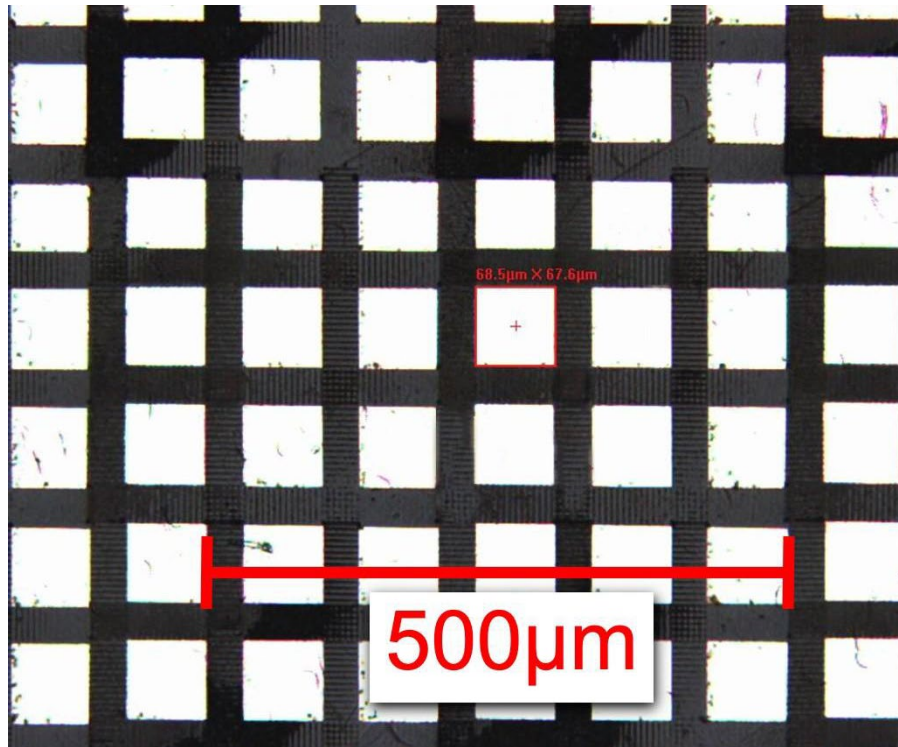
Nielson Scientific high-performance lowpass filters are designed for mid/far infrared, millimeter wave, and terahertz applications. Our filter specifications are shown in the bullets and the chart below. Average in-band transmission is approximately 80%. Filters can be customized in cutoff frequency, with specific ranges given below, and are provided in a range of standard sizes.

### General Specifications:

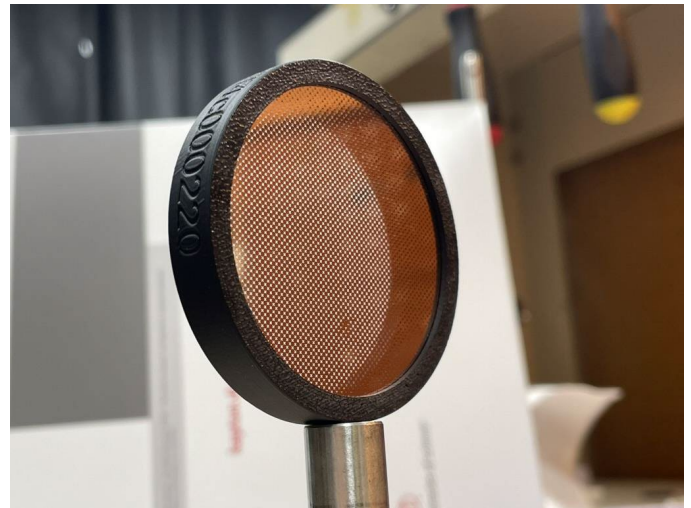
- **Cut off Frequencies:** Available from 0.1 - 10 THz ( $30\ \mu\text{m}$  - 3 mm,  $3.34$  -  $334\ \text{cm}^{-1}$ ). Purchased filters will provide cut off frequencies within 2% of stated values.
- **In-band transmission:** In-band transmission averages above 70%.
- **Out-of-band rejection:** Multiple layer filters have an average out-of-band transmission of less than 1%.
- **Maximum Size:** Standard sizes include SM1 and SM2 threading. Sizes as large as 150 mm available upon request.



*Representative frequency response of a 3.3 THz multi-layer lowpass filter.*



*Lowpass terahertz filters are designed using capacitive metal mesh models. The above figure illustrates a closeup view of a sample single layer of a 4 THz multilayer filter.*



*The above figures show sample product packaging and design.*