



- **Very low transmission loss (< 0.5 dB)**
- **High parallel isolation (> 45 dB)**
- **Working bandwidth from DC up to 1 THz**
- **Rotating frame with angular scale**
- **Ultra-low loss flexible and low dielectric constant substrate material**

## **Description**

The Polarizers consist of one or two layers of patterned Cr-Cu-Au micro grid array of strips. The micro grid array is patterned via photolithography process on very thin (100  $\mu\text{m}$ ) and ultra-low loss substrate for THz frequencies with low dielectric constant. The electric field is transmitted if polarized perpendicularly and reflected if polarized parallel to the grid array. Anteral offers three different designs of Wire Grid Polarizers, one for MmW and two of superior performance for THz frequencies.

## **Applications**

The Polarizer can be used from DC up to 1 THz systems for enhancement of the polarization sensitivity, beam splitting and generation of circular polarization.

## **Specifications**

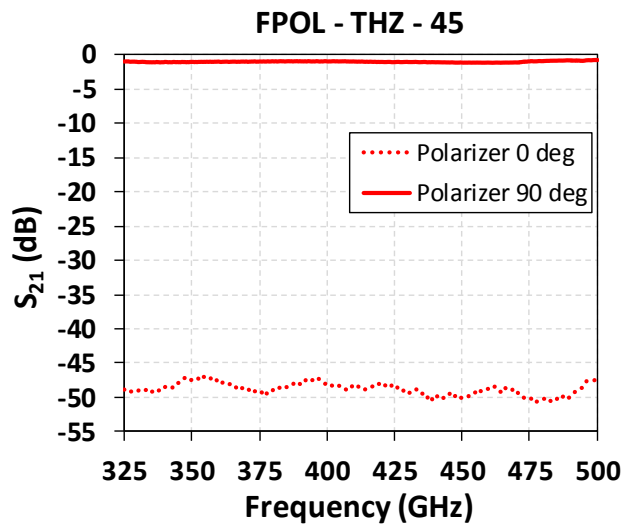
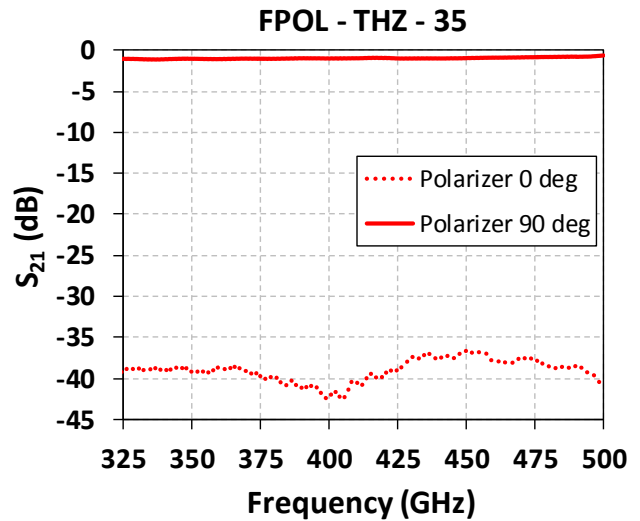
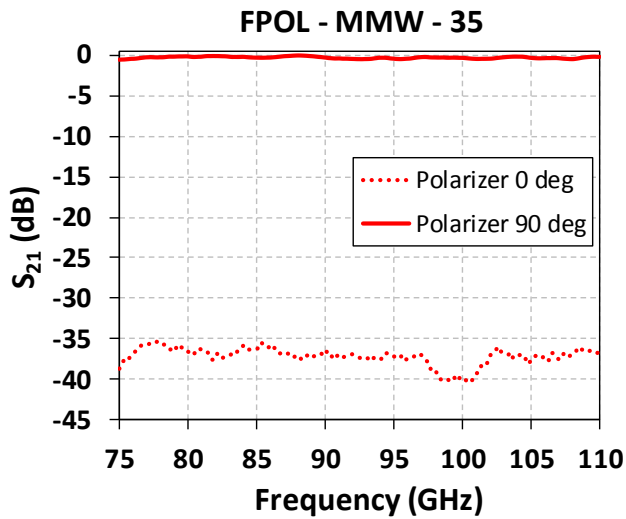
<b>Model</b>	<b>Gap Width (<math>\mu\text{m}</math>)</b>	<b>Strip Width (<math>\mu\text{m}</math>)</b>	<b>Clear Aperture d (mm)</b>	<b>Layers</b>	<b>Transmission Loss* (dB)</b>	<b>Parallel Isolation* (dB)</b>	<b>Frequency Band (GHz)</b>
FPOL-MMW-35-25	50	100	23.9	1	< 0.5	> 35	0 – 250
FPOL-MMW-35-50	50	100	48.3	1	< 0.5	> 35	0 – 250
FPOL-THZ-35-25	10	25	23.9	1	< 1	> 35	250 – 750
FPOL-THZ-35-50	10	25	48.3	1	< 1	> 35	250 – 750
FPOL-THZ-45-25	10	25	23.9	2	< 1	> 45	0 – 1000
FPOL-THZ-45-50	10	25	48.3	2	< 1	> 45	0 – 1000

\* Measured in the center of the band.

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## Measured Polarizer Performance



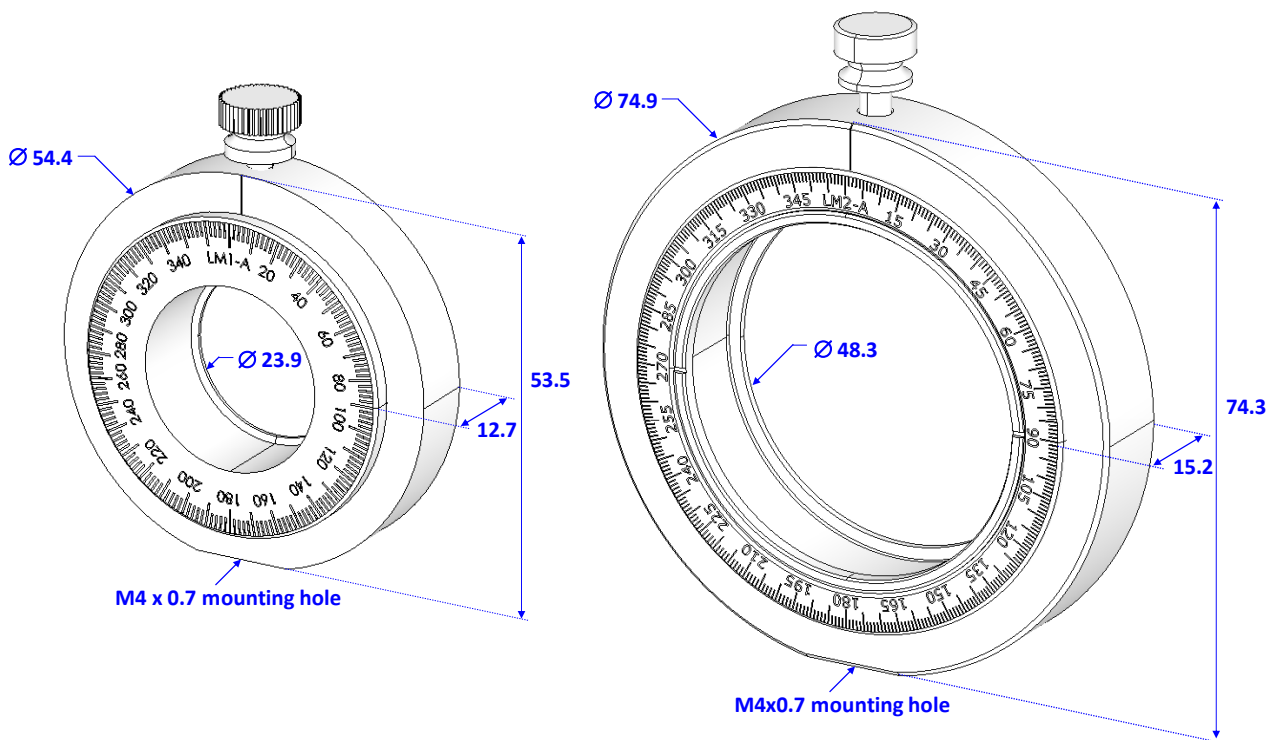
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**ANTERAL**

# Wire Grid Polarizers

## Mounting Frames



Units are in mm.

### Additional Notes

All polarizers are mounted in rotating frames with angular scale of step equal to 1 degree, clear apertures of 50 mm and 25 mm approximately and with ISO M4x0.7 connection.

Different sizes (up to 70 mm) can be provided according to customer requirements.

Polarizers are mounted with protection layers made of high-performance polymethacrylimide foam without degradation of the quality.

The performance of all polarizers is checked before delivery.

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