



2-Bit Phase Quantization Waveguide

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The Invention

A waveguide includes a first double-ridge waveguide, a second double-ridge waveguide, and a polarization rotator. The first double-ridge waveguide provides a phase of an input electrical field rotated 0° or 90° . The second double-ridge outputs an electric field with a polarization that is perpendicular to a first polarization of the input electrical field. The polarization rotator is mounted between the first double-ridge waveguide and the second double-ridge waveguide and includes a frame, a dielectric layer, a first conducting pattern layer forming a first conductor and a second conductor, a first switch connected between the first conductor and the second conductor, a second conducting pattern layer forming a third conductor and a fourth conductor, and a second switch connected between the third conductor and the fourth conductor. Wherein a phase rotation of 90° or -90° is provided by the polarization rotator based on a state of the first and second switch.

Additional Information

For More Information About the Inventors

- [John Booske](#)

Tech Fields

- [Information Technology: Hardware](#)
- [Information Technology: Networking & telecommunications](#)

For current licensing status, please contact Michael Carey at mcarey@warf.org or 608-960-9867