



2-Bit Phase Quantization Phased Array Element

[View U.S. Patent No. 11,239,555 in PDF format.](#)

WARF: P200055US01

Inventors: Nader Behdad, John Booske, Hung Luyen

The Invention

A phase shift element includes a first dielectric layer, a conductive layer, a second dielectric layer, a conducting pattern layer, switches, and vertical interconnect accesses (vias). Each conductor of a plurality of conductors of the conducting pattern layer is orthogonal to two other conductors. Each switch is switchable between a conducting position and a non-conducting position. Each via is connected to a single conductor. The first conductive material reflects an electromagnetic wave incident on the conducting pattern layer and on the second dielectric layer. When a switch is in the conducting position, the switch electrically connects two conductors to each other through their respective vias. A plurality of different switch configurations of the switches provide a 2-bit phase quantization on the reflected electromagnetic wave relative to the electromagnetic wave incident on the conducting pattern layer when the electromagnetic wave is incident on the conducting pattern layer.

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 mccarey@warf.org or 608-960-9867