Abstracts

A Five-Port Matched Pseudo-Magic Tee

A. Okaya. "A Five-Port Matched Pseudo-Magic Tee." 1961 Transactions on Microwave Theory and Techniques 9.3 (May 1961 [T-MTT]): 216-219.

The five-port matched pseudo-magic tee consists of an input waveguide, two load arm waveguides which are coupled into the input waveguide with +90° and -90° phase shifts, respectively, and an output waveguide which is split into two load waveguides by a septum. The improvements include a much broader matching and isolation bandwidth, higher isolation between arms, better matching into arms, and a variety of modifications for different applications. These characteristics have been obtained by employing frequency-insensitive phase shifters. Hence, frequency coverage is mainly limited by mechanical asymmetry and the characteristics of the directional coupler in the magic tee. While this type of hybrid junction is not a true magic tee because the load arms are not used as the input arm, it does have several applications which an ordinary magic tee does not have. X-, K-, and M-band models were examined experimentally, and highly sensitive and accurate impedance measurements were made.

❑ Return to main document.