Abstracts

Partially Dielectric-Slab-Filled Waveguide Phase Shifter

C.T.M. Chang. "Partially Dielectric-Slab-Filled Waveguide Phase Shifter." 1974 Transactions on Microwave Theory and Techniques 22.5 (May 1974 [T-MTT]): 481-485.

An equivalent circuit of a waveguide junction between two asymmetrically filled waveguides is obtained. This equivalent circuit is applied to the design of single-section impedance-matching transformers for a dielectric-slab-filled waveguide phase shifter. Calculation and measurement indicated that when a thin alumina slab is employed, a 360° phase shift can be accomplished in a section approximately 1.1 times the unloaded waveguide wavelength at 2.7 GHz, and that the VSWR between 2.7 and 3.0 GHz is kept to less than 1.15.

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