Abstracts

A Novel Type of Waveguide Polarizer with Large Cross-Polar Bandwidth (Short Papers)

E. Lier and T. Schaug-Pettersen. "A Novel Type of Waveguide Polarizer with Large Cross-Polar Bandwidth (Short Papers)." 1988 Transactions on Microwave Theory and Techniques 36.11 (Nov. 1988 [T-MTT]): 1531-1534.

In this paper a new wide-band quarter-wave polarizer is presented having a rectangular cross section, where all four walls are loaded with a dielectric or artificial dielectric. A much larger bandwidth compared to existing polarizers can be obtained without increasing the insertion loss. A polarizer has been measured with differential phase shift within 90°± 0.7° corresponding to 44 dB isolation, insertion loss below 0.06 dB, and return loss below -24 dB (VSWR <1.13) over the frequency band 10.95 to 14.50 GHz.

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