Abstracts

Design of Nonradiative Dielectric Waveguide Filters (Short Papers)

T. Yoneyama, F. Kuroki and S. Nishida. "Design of Nonradiative Dielectric Waveguide Filters (Short Papers)." 1984 Transactions on Microwave Theory and Techniques 32.12 (Dec. 1984 [T-MTT] (1984 Symposium Issue)): 1659-1662.

An efficient design technique of nonradiative dielectric waveguide filters for use at millimeter wavelengths is developed. Filter stuctures considered here are a gap-coupled type and an altenating-width type. According to present theory, 3-pole, 0.1-dB Chebyshev ripple bandpass filters with a 2-percent bandwidth at a center frequency of 49.5 GHz were designed and fabricated with Teflon dielectric. Calculated and measured filter responses agree quite well, and excess insertion losses are found to be as small as 0.3 dB for both types of the fabricated filter circuits.

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