Abstracts

Quasi-Planar Filters for Millimeter-Wave Applications

R. Vahldieck. "Quasi-Planar Filters for Millimeter-Wave Applications." 1989 Transactions on Microwave Theory and Techniques 37.2 (Feb. 1989 [T-MTT] (Special Issue on Quasi-Planar Millimeter-Wave Components and Subsystems)): 324-334.

This paper reviews a variety of quasi-planar low-pass, bandpass, and bandstop filters suitable for millimeter-wave applications. The emphasis is on ladder-shaped E-plane bandpass filters to highlight their advantages as well as Iimitations in terms of design, performance, and manufacturing. To extend their range of application it is suggested that E-plane filters be cascaded for better passband separation. A modified finline filter is presented to improve the performance and manufacturing of filters in waveguides below cutoff. Finally, it is shown that plated through holes can simplify filter housing fabrication and that surface-metallized composite housings are a lightweight and low-cost alternative to metal housings.

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