

Abstracts

Analysis of Compact E-Plane Diplexers in Rectangular Waveguide

A. Morini and T. Rozzi. "Analysis of Compact E-Plane Diplexers in Rectangular Waveguide." 1995 *Transactions on Microwave Theory and Techniques* 43.8 (Aug. 1995 [T-MTT]): 1834-1839.

Photolithographic techniques permit the realization of complex circuits totally confined to the E-plane of millimetric rectangular guides with high precision and low cost. This work contains a detailed analysis of an E-plane diplexer configuration recently introduced. Its main feature is the matching section of the three port junction, a simple abrupt E-plane one tuned by means of an inductive post realized on the same mask as the branching filters. On the basis of this analysis, we also demonstrate the application of a recently developed diplexer synthesis technique. Many prototypes, in K/sub a/-band were designed and tested, showing good performances and good agreement between theory and experiment.

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