Abstracts

Rigorous Design of Septate E-Plane Multiplexer with Printed Circuit Elements

J. Dittloff and F. Arndt. "Rigorous Design of Septate E-Plane Multiplexer with Printed Circuit Elements." 1988 MTT-S International Microwave Symposium Digest 88.1 (1988 Vol. I [MWSYM]): 431-434.

A new design of compact, low-cost and low-insertion loss millimeter wave multiplexer is introduced utilizing metallic E-plane filters integrated in the septate waveguide sections of wide-band E-plane n-furcated power dividers. A rigorous simulation technique, which is based on the modal scattering matrix method, comprises the complete component including the E-plane transformer, the septum as well as the filter sections, and takes the influences of the higher-order mode interaction at all discontinuities into account. Computer optimized data are given for Ku- and E-band di- and triplexer design examples with five-, or seven- resonator metal-insert filters, respectively.

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