Abstracts

Multiport Branch-Waveguide Couplers with Arbitrary Power Splitting

P. Carle. "Multiport Branch-Waveguide Couplers with Arbitrary Power Splitting." 1989 MTT-S International Microwave Symposium Digest 89.1 (1989 Vol. I [MWSYM]): 317-320.

An optimised synthesis method to design multi-port branch-waveguide couplers with arbitrary output power distributions is presented. This component offers the potential to reduce complexity, mass and size of beam forming networks of multiple or contoured satellite antennas. Besides, the power distributions obtained, feeding separately any input port, are orthogonal and that gives this device suitable for "multi-mode" antenna applications. The design of a six-port coupler in WR75 wave-guide is outlined in detail. Comparing the experimental results with the computed performance shows that the synthesis procedure is verified very satisfactorily. Moreover, the theoretical and measured results obtained on an eight-port coupler prototype will be available at the time of the symposium.

❑ Return to main document.