Abstracts

Ridge Waveguide Field Description and Application to Directional Couplers

W.J. Getsinger. "Ridge Waveguide Field Description and Application to Directional Couplers." 1962 Transactions on Microwave Theory and Techniques 10.1 (Jan. 1962 [T-MTT]): 41-50.

An approximate determination of the dominant-mode fields in ridge waveguides at all frequencies has been made. Evaluations of the fields along the walls of a commercially standard single-ridge guide having a usable frequency range from 3.75 to 15.0 Gc, and a commercially standard double-ridge guide having a usable frequency range from 4.7 to 11.0 Gc were carried out, and graphs drawn so that the results could be applied to practical situations. The graphs were used to design some ridge-waveguide directional couplers. Both cross-guide and broad-wall couplers were made in single-ridge waveguides and in double-ridge waveguides, using cross sections approximating those of the above commercially available ridge guides. The validity of the field graphs was demonstrated by the close correspondence between measured and predicted coupling for the cross-guide couplers, and by achieving predicted equality of coupling at the band ends for the broad-wall couplers.

❑ Return to main document.