Abstracts

In-Line Waveguide Calorimeter for High-Power Measurement

M.M. Brady. "In-Line Waveguide Calorimeter for High-Power Measurement." 1962 Transactions on Microwave Theory and Techniques 10.5 (Sep. 1962 [T-MTT]): 359-366.

The static in-line calorimeter measures the temperature rise in the walls of a waveguide caused by the attenuation of microwave power flowing through the waveguide. It is simple and inexpensive and can be constructed so that it will fit on waveguide already existing in a microwave system. The device should be reliable because it uses no active circuitry. In addition, few mechanical problems are encountered in its use because the existing waveguide need not be altered. The theory of the device is developed, and two experimental S-band calorimeters using stainless steel waveguide and resistance-wire bridge temperature indicators are described. The measured sensitivity and time constant for both units fall within the experimental error of confirming the theoretically predicted figures.

❑ Return to main document.