Abstracts

Broad-Band Calorimeters for the Measurement of Low and Medium Level Microwave Power I. Analysis and Design

M. Sucher and H.J. Carlin. "Broad-Band Calorimeters for the Measurement of Low and Medium Level Microwave Power I. Analysis and Design." 1958 Transactions on Microwave Theory and Techniques 6.2 (Apr. 1958 [T-MTT]): 188-194.

Design considerations for a group of broad-band calorimetric power meters, capable of accurately measuring low (zero to one milliwatt) and medium (zero to 100 milliwatts) power levels over a frequency range from zero to 75,000 mc, are presented. The power meters are of the nonadiabatic, twin, dry-load type and utilize the substitution of dc power. The conflicting requirements imposed upon the design by the need to realize broad-band performance, adequate sensitivity, reasonably short response time, negligibly small rf-dc equivalence error, freedom from "zero" drift and from other types of error are discussed. An analysis is given of the known sources of error which enables the accuracy of the individual instruments to be reliably estimated.

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