Abstracts

Determination of the Parameters of Cavities Terminating Transmission Lines

R.A. Lebowitz. "Determination of the Parameters of Cavities Terminating Transmission Lines." 1956 Transactions on Microwave Theory and Techniques 4.1 (Jan. 1956 [T-MTT]): 51-53.

Past methods available for measuring parameters of cavities terminating transmission lines are often considered too involved for production line testing. One common method requires many individual standing wave ratio measurements at frequencies slightly lower and higher than the resonant frequency of the cavity. These measurements take not only an excessive length of time but also require an accurately controlled variable frequency oscillator for precision measurements. A second method in which an oscillographic display of reflected power is used, while much faster, requires more complicated equipment and calls for use of unconventional measurement procedures. The method presented herein was devised to meet time and accuracy requirements on the production line. Its speedy results can be obtained from equipment and calculations with which production line personnel are familiar. Use is made of the same common sweep frequency method utilized in testing transmission and absorption cavities. This paper presents a derivation of the theory of the method, a description of the apparatus used, and a comparison of the results obtained with this and the point by point method.

❑ Return to main document.