Abstracts

A Swept-Frequency Magnitude Method for the Dielectric Characterization of Chemical and Biological Systems

M.A. Hollis, C.F. Blackman, C.M. Weil, J.W. Allis and D.J. Schaefer. "A Swept-Frequency Magnitude Method for the Dielectric Characterization of Chemical and Biological Systems." 1980 Transactions on Microwave Theory and Techniques 28.7 (Jul. 1980 [T-MTT]): 791-801.

A swept-frequency system is described which permits the convenient evaluation of many RF parameters of biological and chemical samples. This system is capable of highly accurate magnitude measurements which can provide not only absorption information but also the complex permittivity when processed through a computerized algorithm. Data have been taken on deionized water and on an aqueous triglycine solution, and there is close agreement with the more time-consuming but precise fixed-frequency measurements of cited references. This measurement system is particularly useful for the examination of frequency- and power-specific responses over narrow ranges.

❑ Return to main document.