Abstracts

Extension of Digital Automatic Method for Measuring the Permittivity of Thin Dielectric Films (Short Papers)

M.A. Rzepecka and M.A.K. Hamid. "Extension of Digital Automatic Method for Measuring the Permittivity of Thin Dielectric Films (Short Papers)." 1972 Transactions on Microwave Theory and Techniques 20.9 (Sep. 1972 [T-MTT]): 628-630.

The permittivity of thin dielectric films can be measured with good accuracy by employing a method recently reported by the authors, whereby the microwave oscillator frequency is automatically locked to the resonant frequency of the test cavity perturbed by the sample, thus leading to a digital readout of the frequency. However, the method is satisfactory only when the frequency shift caused by the presence of the test sample does not exceed the frequency lock-in bandwidth. By employing a search oscillator, controlled by the second harmonic of the modulation signal provided for the frequency locking, this limitation is removed, thus extending the capability of the method to thicker films and/or larger permittivities.

❑ Return to main document.

Click on title for a complete paper.