Abstracts

A New Free-Wave Dielectric and Magnetic Properties Measurement System at Millimetre Wavelengths

A. Khosrowbeygi, H.D. Griffiths and A.L. Cullen. "A New Free-Wave Dielectric and Magnetic Properties Measurement System at Millimetre Wavelengths." 1994 MTT-S International Microwave Symposium Digest 94.3 (1994 Vol. III [MWSYM]): 1461-1464.

A new free-wave method for measuring complex permittivity and permeability of materials at mm-wave frequencies is introduced. The use of time gating for removing the unwanted reflections within the sample, and its advantages in simplifying the calculations and decreasing the dependence of measurement accuracy frequency are discussd. The error due to imperfect gate pameters is derived by simulation, and the optimum sample thickness is recomended. Examples of results obtained from measurements of ferrite and dielectric samples are presented and discussed.

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