

Abstracts

An Automatic Network Analyzer Using a Slotted Line Reflectometer

E. Martin, J. Margineda and J.M. Zamarro. "An Automatic Network Analyzer Using a Slotted Line Reflectometer." 1982 Transactions on Microwave Theory and Techniques 30.5 (May 1982 [T-MTT]): 667-670.

An automatic network analyzer (ANA) based on a 5-port reflectometer is presented. The measuring circuit consists of a slotted waveguide with sliding probe. A group of three fixed probes may be used instead. A microwave source, frequency counter, and power meter are used all controlled by a desktop computer. The theory is simple and the algorithm for obtaining the complex reflection coefficient from experimental data is fast. Some results are given for measurements carried out at X-band frequencies. Successful measurement accuracy is achieved with relatively noncomplex hardware. Multi octave bandwidth operation is expected for the proposed technique.

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