Abstracts

Microwave-Based Low-Cost Instrument for Film Thickness Measurement

L.F. Root and I. Kaufman. "Microwave-Based Low-Cost Instrument for Film Thickness Measurement." 1992 MTT-S International Microwave Symposium Digest 92.3 (1992 Vol. III [MWSYM]): 1553-1555.

The use of inverted microstrip resonators for non-contacting real time thickness measurement of thin liquid or solid films and coatings described earlier has been developed into a low-cost instrument for general laboratory or industrial use. Although microwave-based, the instrument to be described functions without microwave test equipment. Insight into the oscillator behavior was obtained by the use of equivalent circuits and an ABCD matrix technique while several options were considered for the frequency discrimination function. The system successfully determined, the film thicknesses of water, enamel paint, silicone rubber, and copper sheet metal.

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