

Abstracts

Comparisons of Waveguide Losses Calibrated by the DC Potentiometer, AC Ratio Transformer, and Reflectometer Techniques (Correspondence)

T.Y. Otoshi, C.T. Stelzried, B.C. Yates and R.W. Beatty. "Comparisons of Waveguide Losses Calibrated by the DC Potentiometer, AC Ratio Transformer, and Reflectometer Techniques (Correspondence)." 1970 Transactions on Microwave Theory and Techniques 18.7 (Jul. 1970 [T-MTT]): 406-409.

Comparisons are made of the losses of two precision waveguide sections that were calibrated by three independent attenuation measurement methods. The loss measurement systems involved were the 1) dual-channel system which uses thermistors and a dc potentiometer test set, 2) dual-channel system which uses barretters and an ac ratio transformer test set, and 3) National Bureau of Standards reflectometer system which utilizes a quarter-wave short circuit and an IF attenuation standard. Loss values of about 0.05 dB, as calibrated by the three independent methods, typically agreed to within 0.0006 dB. It is believed that the results of these calibrations are representative of the best that can be achieved with current state-of-the-art techniques and available instrumentation for low-loss waveguide measurements.

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