Abstracts

Performance of a Dual Six-Port Automatic Network Analyzer (Dec. 1979 [T-MTT])

C.A. Hoer. "Performance of a Dual Six-Port Automatic Network Analyzer (Dec. 1979 [T-MTT])." 1979 Transactions on Microwave Theory and Techniques 27.12 (Dec. 1979 [T-MTT] (1979 Symposium Issue)): 993-998.

lnitial results of the performance of an experimental dual six-port automatic network analyzer operating in the 2-18-GHz range with thermistor-type power detectors are given. The imprecision in measuring reflection coefficients of one-port devices, or the scattering parameters of two-port devices is 4x10/sup -5/, excluding connector repeatability. At 3 GHz, the imprecision in measuring attenuation varies from 0.0003 dB at low values of attenuation to 0.15 dB at 60 dB. The systematic error in measuring attenuation appears to be Iess than the imprecision. The systematic error in measuring reflection coefficient appears to be less than 0.0004. Additional systematic errors caused by changes in the calibration constants over a 20-week period were observed to be less than 0.003 dB in attenuation and less than 0.002 in reflection coefficient.

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