Abstracts

Measurement of the Noise Temperature of a Mismatched Noise Source

D.F. Wait and T. Nemoto. "Measurement of the Noise Temperature of a Mismatched Noise Source." 1968 Transactions on Microwave Theory and Techniques 16.9 (Sep. 1968 [T-MTT] (Special Issue on Noise)): 670-675.

A method is suggested that can measure the available power (or the effective temperature) of a noise generator independent of its reflection coefficient. A system utilizing a compensation generator and a tuned three-port circulator is constructed at X-band and evaluated for a noise generator of about 10,000°K. The error analysis and the experimental results indicate that the effective temperature of this generator, with a reflection coefficient of 0.5, can be measured within 0.6 percent in addition to the uncertainty of a standard needed to calibrate the system.

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