Abstracts

Vector corrected noise temperature measurements

M.H. Weatherspoon, L.P. Dunleavy, A. Boudiaf and J. Randa. "Vector corrected noise temperature measurements." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 2253-2256 vol.3.

A new one-port technique for measuring noise temperature is presented that uses receiver noise parameters for error correction. Improved accuracy in one-port measurements of noise temperature made with commercial systems is demonstrated without using isolators. Equations for correcting mismatch errors are developed as part of the available vector noise temperature equation. Results, presented for a C-band solid-state cold noise source and a pair of microwave solid-state noise diodes, are shown to be in good agreement with radiometric measurements of the same sources.

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