Abstracts

Measurement of Losses in Noise-Matching Networks

E.W. Strid. "Measurement of Losses in Noise-Matching Networks." 1981 Transactions on Microwave Theory and Techniques 29.3 (Mar. 1981 [T-MTT]): 247-252.

The noise contribution of an input-matching network to a low-noise amplifier is equal to the inverse of the network's available gain. The available gain of various networks at 4 GHz was computed from high-accuracy S-parameter measurements. The available gain of a typical tuner was experimentally found to be a strong function of its tuning, which shows that "back-to-back" measurements of two tuners to obtain the loss of each tuner can be inaccurate. Measurement of the available gain of an amplifier's input-matching circuit is shown to give quick insight into its minimum noise contribution before the actual amplifier stage is built.

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