Abstracts

Intrinsic Attenuation (May 1963 [T-MTT])

The name "intrinsic attenuation" is suggested for the concept originally called "intrinsic insertion loss" and reasons for the proposed change are given. Formulas are given to permit calculation of this quantity, given the scattering coefficients of the network. The use of lossless tuners to obtain a bilaterally matched nonreflecting network is described, and the expected reduction in attenuation is discussed. A graph is presented for rapidly estimating this reduction in attenuation, given minimum information about the network. Experimental results for badly mismatched coaxial attenuators show that the losses in the tuners may in some cases prevent one from realizing any reduction in attenuation.

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