Abstracts

Analytical behavior of the noise resistance and the noise conductance for a network with parallel and series feedback

L. Boglione, R.D. Pollard and V. Postoyalko. "Analytical behavior of the noise resistance and the noise conductance for a network with parallel and series feedback." 1997 Transactions on Microwave Theory and Techniques 45.2 (Feb. 1997 [T-MTT]): 301-304.

An analysis is presented of the changes of the noise parameters of a two-port network when noisy series and parallel feedback immittances are applied. Exact formulas for the noise parameters R/sub n/, g/sub n/, and /spl rho//sub n/ are given as functions of the feedback for a given network. It is proved that R/sub n/ always reaches a minimum when a reactive series feedback is considered. The same results are demonstrated for g/sub n/ since a duality principle is pointed out. The results are valid for a wide range of linear microwave two-port networks, either passive or active, and they are used to confirm the data from previously published work.

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