Abstracts

New simple proofs of the two-port stability criterium in terms of the single stability parameter /spl mu//sub 1/ (/spl mu//sub 2/)

P. Bianco, G. Ghione and M. Pirola. "New simple proofs of the two-port stability criterium in terms of the single stability parameter /spl mu//sub 1/ (/spl mu//sub 2/)." 2001 Transactions on Microwave Theory and Techniques 49.6 (Jun. 2001, Part I [T-MTT]): 1073-1076.

The classical scattering-parameter stability criterium for a linear two-port makes use of two conditions involving the Rollet parameter K plus one additional parameter. A new stability criterium was developed by Edwards and Sinksky [1992] on the basis of a condition on a single parameter, i.e., /spl mu//sub 1/ or /spl mu//sub 2/. This paper presents a new, simpler, and more straightforward set of proofs of the single-parameter stability criterium for a linear two-port. The first proof is algebraic and shows the equivalence of the conditions K>1, b/sub 1/>1 with the condition /spl mu//sub i/>1 (i=1, 2). The second proof, which is geometrical, relies only on the classical stability circle concepts in an improved way with respect to the treatment by Edwards and Sinksky.

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