Abstracts

A Method for the Accurate Measurement of the Noise Temperature Ratio of Microwave Mixer Crystals

R.E. Davis and R.C. Dearle. "A Method for the Accurate Measurement of the Noise Temperature Ratio of Microwave Mixer Crystals." 1955 Transactions on Microwave Theory and Techniques 3.6 (Dec. 1955 [T-MTT]): 27-35.

For the precise measurement of noise temperature ratio of a microwave mixer crystal it is common practice to employ a Roberts coupling network in order to make the Y factor independent of crystal conductance. It is shown here that a number of errors are introduced in this method, the chief of which is failure to consider the effect of transit time loading. It is also shown that the use of cathode lead inductance leads to a much improved measurement of noise temperature ratio.

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