Abstracts

On Power Distribution in Additive Amplifiers

K.B. Niclas, R.R. Pereira and A.P. Chang. "On Power Distribution in Additive Amplifiers." 1990 Transactions on Microwave Theory and Techniques 38.11 (Nov. 1990 [T-MTT]): 1692-1700.

An analysis of the linear power distribution in amplifiers employing the additive amplification principle has been made. It reveals the wide spread of the active devices contributions to the output power at any one frequency and exposes the band-sharing nature of the additive amplification process in multioctave amplifiers. Reversals in the direction of the energy flow over parts of the frequency band converting active into passive devices have been observed. The flat gain response of these amplifiers was found to be the result of a sophisticated process in balancing the active devices' output powers. Finally, the computed and measured performance parameters of a 6-18 GHz 2 x 2 matrix amplifier with emphasis on its experimental nonlinear behavior are briefly discussed.

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