Abstracts

Transfer Functions of Amplitude and Phase Fluctuations and Additive Noise in Varactor Doublers

E. Bava, G.P. Bava, A. Godone and G. Rietto. "Transfer Functions of Amplitude and Phase Fluctuations and Additive Noise in Varactor Doublers." 1979 Transactions on Microwave Theory and Techniques 27.8 (Aug. 1979 [T-MTT]): 753-757.

In order to evaluate the spectral purity degradation produced by varactor doublers, the transfer properties of amplitude and phase fluctuations have been determined with reference to a theoretical analysis developed in a previous work. Quasi-stationary conditions have been assumed and the input and output tuning circuits have been approximated with a linear relation between frequency and reactance. The effect of the bias circuit has been taken into account both for fixed-bias and self-bias conditions. Then the additive-noise contribution of the doubler circuit elements have been obtained. Numerical examples and curves are given for all the evaluated quantities.

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