Abstracts

A General Method Based on Harmonic Balance Techniques to Simulate Noise in Free Running Oscillators

W. Anzill and P. Russer. "A General Method Based on Harmonic Balance Techniques to Simulate Noise in Free Running Oscillators." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 655-658.

A new approach using perturbation theory for simulating the noise behavior in free running microwave oscillators based on a piecewise harmonic balance technique is outlined and applied to a planar integrated microwave oscillator at 14 GHz. A single-sideband phase noise of -90 dBc/Hz at an offset frequency of 100 kHz was measured. Simulated and measured single-sideband phase noise agree within the accuracy of measurements. The method is neither limited to certain circuit topologies nor to certain nature of noise sources.

❑ Return to main document.