Abstracts

Phase Noise Minimization of Microwave Oscillators by Optimal Design

W. Anzill, O. von Stryk, R. Bulirsch and P. Russer. "Phase Noise Minimization of Microwave Oscillators by Optimal Design." 1995 MTT-S International Microwave Symposium Digest 95.3 (1995 Vol. III [MWSYM]): 1565-1568.

A novel time domain phase noise analysis and minimization method (TDPNAM) is presented and applied to the design of a 15 GHz microstrip line oscillator. The new method determines the design, e.g., the linear network of oscillators with a minimized phase noise by solving an appropriate optimal control problem numerically. Starting from a design with standard CAD-tools the measured single-sideband phase noise is reduced by 10 dB over the whole offset frequency range to values as low as -100 dBc/Hz at an offset frequency of 100 kHz.

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