# Abstracts

## Nonlinearity compensation circuit for voltage-controlled oscillator operating in linear frequency sweep mode

*B.K. Kang, H.J. Kwon, B.K. Mheen, H.J. Yoo and Y.H. Kim. "Nonlinearity compensation circuit for voltage-controlled oscillator operating in linear frequency sweep mode." 2000 Microwave and Guided Wave Letters 10.12 (Dec. 2000 [MGWL]): 537-539.*

A circuit that can compensate for nonlinearity in frequency modulation of a voltage-controlled oscillator (VCO) is proposed. The circuit uses a fixed-length delay line and an analog phase-locked loop (PLL). It sweeps the frequency of VCO output linearly in time and easily adjusts the rate of frequency sweep. For a VCO operating in a frequency range of 5.3-5.4 GHz, the nonlinearity in frequency modulation was measured by observing the beat frequency f/sub B/(t) between the VCO and delayed VCO outputs. The deviations of f/sub B/ (t) of /spl sim/28 % from its average values (2, 5, and 10 kHz) were reduced to <2% after compensation, indicating that the linearity in frequency modulation was improved significantly independent of the rate of frequency sweep.

❑ Return to main document.