Abstracts

A 40 GHz-band fully monolithic VCO with a one-wave length microstrip resonator for accurate oscillation frequency

H. Ikematsu, K. Kawakami, T. Katoh and K. Itoh. "A 40 GHz-band fully monolithic VCO with a one-wave length microstrip resonator for accurate oscillation frequency." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 843-846 vol.2.

A 40 GHz-band fully monolithic VCO with a one-wavelength microstrip resonator (MSR) associated with a dumping resistor is presented. Employing a one-wavelength MSR, high setting accuracy of oscillation frequency can be obtained, and it is a very effective method to improve yield of millimeter wave MMIC oscillator. Also the one-wavelength MSR with a dumping resistor is proposed for suppression of parasitic oscillation. In analytical approach, variation of oscillation frequency is less than 150 MHz over C/sub gs//C/sub ds//C/sub dg/ variation of /spl plusmn/10% in worst case. The measured VCO tuning range is 493 MHz and it is much wider than the variation of oscillation frequency caused by process variations.

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