Abstracts

A low phase noise X-band MMIC GaAs MESFET VCO

C.-H. Lee, S. Han, B. Matinpour and J. Laskar. "A low phase noise X-band MMIC GaAs MESFET VCO." 2000 Microwave and Guided Wave Letters 10.8 (Aug. 2000 [MGWL]): 325-327.

We present a fully monolithic X-band VCO MMIC implemented in a commercial GaAs MESFET process. Measurement results demonstrate a single sideband phase noise of -91 dBc/Hz at a 100 KHz offset. This VCO achieves a maximum output power of 11.5 dBm with 12 dB of output power control and a 550 MHz of frequency tuning range. Second harmonic suppression of 20 dB or more is measured across the entire power and frequency range. These results are comparable to, or better than, the best reported results of VCO's implemented in high electron mobility transistor (HEMT) and heterojunction bipolar transistor (HBT) processes.

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