Abstracts

Ultra low phase noise SiGe HBT. Application to a C band sapphire resonator oscillator

G. Cibiel, M. Regis, O. Llopis, Y. Kersale, V. Giordano, H. Lafontaine, R. Plana and M. Chaubet. "Ultra low phase noise SiGe HBT. Application to a C band sapphire resonator oscillator." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 691-694 vol.2.

In this paper, the electrical and noise performance of a 0.8 /spl mu/m Silicon Germanium (SiGe) transistor optimized for the design of low phase noise circuits are described. The nonlinear model developed for the transistor and its use for the design of low phase noise C band Sapphire resonator oscillator are reported. The best measured phase noise (at ambient temperature) is -133 dBc/Hz at 1 kHz offset from a 4.85 GHz carrier frequency for a loaded Q/sub L/ factor of 60,000.

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