Abstracts

Low frequency noise characterization and modeling of microwave bipolar devices: application to the design of low phase noise oscillator (2002 Vol. I [MWSYM])

L. Bary, G. Cibiel, I. Telliez, J. Rayssac, A. Rennane, C. Boulanger, O. Llopis, M. Borgarino, R. Plana and J. Graffeuil. "Low frequency noise characterization and modeling of microwave bipolar devices: application to the design of low phase noise oscillator (2002 Vol. I [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.1 (2002 Vol. I [MWSYM]): 275-278 vol.1.

This paper addresses advanced low frequency noise measurements and modeling of SiGe HBTs. Results have been implemented into a nonlinear Gummel Poon model which has been validated through the design of a DRO made of an integrated SiGe negative resistance in the 10 GHz range. We have obtained phase noise of -105 dBc/Hz at 10 kHz offset, which is close to the state of the art, and we have demonstrated a design technique that provides an accurate phase noise prediction.

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