Abstracts

Impact of 1/f noise in Ka-band InGaP/GaAs HBT frequency sources

M.S. Heins, M.S. Hein, T. Juneja, D. Caruth, M. Hattendorf and M. Feng. "Impact of 1/f noise in Ka-band InGaP/GaAs HBT frequency sources." 2000 MTT-S International Microwave Symposium Digest 00.2 (2000 Vol. II [MWSYM]): 1209-1212.

A measurement system was constructed to evaluate the 1/f noise of InGaP/GaAs HBTs. Our standard InGaP/GaAs HBTs have 1/f noise that is at least 10 dB less than reported AlGaAs devices and comparable to other InGaP devices. Experiments and simulations highlight the contributions of both device noise and circuit elements to the resultant oscillator phase noise in our particular Ka-band VCO circuits at 100 kHz offset.

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