Abstracts

Monolithic HEMT LNAs for Radar, EW, and COMM (1989 [MCS])

M.A.G. Upton, K.H. Snow, D.I. Goldstick, W.M. Kong, M.-Y. Kao, W.F. Kopp, P. Ho, G.J. Tessmer, B.R. Lee, K.A. Wypych and A.A. Jabra. "Monolithic HEMT LNAs for Radar, EW, and COMM (1989 [MCS])." 1989 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 89.1 (1989 [MCS]): 105-109.

Several monolithic HEMT low noise amplifiers (LNAs), designed for 7-11 GHz airborne radar, 2-18 GHz electronic warfare, and 20 GHz military satellite communications applications have demonstrated outstanding performance. Two-stage MMICs achieve as low as 1.2 dB noise figure at 10 GHz with 15 dB gain, and typically less than 1.8 dB noise figure from 7-11 GHz. A distributed amplifier demonstrates 3.0-5.2 dB noise figure with around 11 dB gain from 2-18 GHz. Finally, a three-stage MMIC achieves less than 2.0 dB noise figure from 18-23 GHz with 29 dB associated gain, representing the highest level of performance yet reported for a low-noise MMIC.

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