Abstracts

High Performance, High Yield Millimeter-Wave MMIC LNAs Using InP HEMTs

L. Tran, R. Isobe, M. Delaney, R. Rhodes, D. Jang, J. Brown, L. Nguyen, M. Le, M. Thompson and T. Liu. "High Performance, High Yield Millimeter-Wave MMIC LNAs Using InP HEMTs." 1996 MTT-S International Microwave Symposium Digest 96.1 (1996 Vol. I [MWSYM]): 9-Delaney, Michael.

A millimeter-wave MMIC low noise amplifier chip set has been developed. Based on the InP HEMT technology, these LNAs provide state-of-the-art performance as well as excellent yield and repeatability. With greater than 5090 chip yield, a three-stage Q-band LNA design achieved 26 to 31 dB of gain from 42 to 50 GHz and 1.8 dB average noise figure from 43.3 to 45.7 GHz. In addition, there we six other LNA designs including a four-stage V-band LNA with 28 dB of gain and 2.3 dB noise figure and a two-stage balanced Q-band LNA that provided 17 dB of gain and has greater than 61% yield.

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