Abstracts

A Monolithic W-Band Three-Stage LNA Using 0.1 µm InAlAs/InGaAs/InP HEMT Technology

H. Wang, R. Lai, T.H. Chen, P.D. Chow, J. Velebir, K.L. Tan, D.C. Streit, P.H. Liu and G. Ponchak. "A Monolithic W-Band Three-Stage LNA Using 0.1 µm InAlAs/InGaAs/InP HEMT Technology." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 519-522.

A monolithic W-band three-stage LNA based on 0.1 µm pseudomorphic InAlAs/InGaAs/InP HEMTs has been developed. This LNA demonstrated a noise figure of 4.3 dB and an associated small signal gain of 19 dB at 100 GHz with a low dc power consumption of 20 mW. This is the best reported monolithic W-band LNA performance using InP-based HEMT technology and demonstrates the potential of InP HEMT technology for higher millimeter-wave applications.

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