Abstracts

Ultra Low Noise High Gain W-Band InP-Based HEMT Downconverter

P.D. Chow, K. Tan, D. Streit, D. Garske, P. Liu and H.C. Yen. "Ultra Low Noise High Gain W-Band InP-Based HEMT Downconverter." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1041-1044.

State-of-the-art performance have been achieved at W-band on a two-stage LNA and on a single-ended active mixer fabricated using 0.15 micron T-gate lnP HEMT devices. The LNA showed 3 dB noise figure and 16.5 dB associated gain at the waveguide interface at 93 GHz. The active HEMT mixer has 2.4 dB conversion gain and 7.3 dB noise figure at 94 GHz RF and 85 GHz LO. At the same RF and LO frequencies, the complete downconverter showed 3.6 dB noise figure and 17.8 dB conversion gain at the waveguide input and output.

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