Abstracts

HBT MMICs for L Band Mobile Radiocommunications (1994 Vol. II [MWSYM])

J.O. Plouchart, H. Wang, C. Pinatel, M. Riet, P. Berdaguer and C. Dubon-Chevallier. "HBT MMICs for L Band Mobile Radiocommunications (1994 Vol. II [MWSYM])." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 1187-1190.

L band HBT MMICs, such as VCOs, mixers, frequency dividers and power transistors, which are required in the handset of DCS1800 mobile telecommunication system, have been fabricated on the same wafer using a simple HBT process. These different modules have been tested separately using on wafer RF probe. All circuits operate as predicted in the DCS1800 frequency range. Furthermore, the VCO has a large bandwidth of 400 MHz, the mixer provides positive conversion gain up to 18.5 GHz, and the power transistor exhibits an output power of 1.8 W with a power added efficiency of 60 % at 1.8 GHz. These performances demonstrate that all the mobile terminal RF parts can be integrated into a single chip, when using HBT technology.

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