Abstracts

HEMT MMIC Chip Set for Low Cost Miniaturized EHF SATCOM Transceiver

J.A. Lester, P. Huang, M. Ahmadi, M. Dufault, D. Ingram, T.H. Chen, D. Garske and P.D. Chow. "HEMT MMIC Chip Set for Low Cost Miniaturized EHF SATCOM Transceiver." 1994 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 94.1 (1994 [MCS]): 85-88.

Presented is a set of passivated pseudomorphic InGaAs HEMT MMICs for insertion into a low cost miniaturized transceiver for EHF SATCOM terminal applications. A 20 GHz MMIC balanced LNA with 1.8 dB noise figure and 31 dB gain, a K-Band downconverter, and a 22 GHz doubler chain are for insertion into the receiving subsystem. The 22 GHz doubler chain, a 44 GHz doubler chain, and a 44 GHz driver amplifier with +21 dBm of output power are for insertion into the upconverter-transmitter subsystem. The 22 GHz doubler chain and 44 GHz driver arnplifier feature couplers and diode detectors integrated on-chip for built-in-test (BIT) application.

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