

Abstracts

Low Cost Miniaturized EHF SATCOM Transceiver Featuring HEMT MMICs and LTCC Multilayer Packaging

J.A. Lester, M. Ahmadi, S. Peratoner, J. Hathaway, D. Garske and P.D. Chow. "Low Cost Miniaturized EHF SATCOM Transceiver Featuring HEMT MMICs and LTCC Multilayer Packaging." 1995 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 95.1 (1995 [MCS]): 35-38.

Presented is a 20 GHz downconverter and a 44 GHz upconverter for a low cost miniaturized transceiver for EHF SATCOM terminal applications. The hardware features a set of passivated pseudomorphic InGaAs HEMT MMICs including a 20 GHz balanced low noise amplifier and a 44 GHz 100 mW driver amplifier. The upconverter input and the LO input of the downconverter feature built-in-test (BIT) with on-chip detectors. The downconverter is packaged in a low temperature co-fired ceramic (LTCC) substrate, with integrated RF and DC interconnects, printed resistors, and a buried stripline IF filter.

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