Abstracts

GaAs MMIC's for Digital Radio Frequency Memory (DRFM) Subsystems

G.K. Lewis, I.J. Bahl, E.L. Griffin and E.R. Schineller. "GaAs MMIC's for Digital Radio Frequency Memory (DRFM) Subsystems." 1987 Transactions on Microwave Theory and Techniques 35.12 (Dec. 1987 [T-MTT] (1987 Symposium Issue)): 1477-1485.

A DRFM analog subsystem using ten GaAs MMIC chips (six limiting amplifiers, one quadrature down-converter, two IF amplifiers, and one quadrature up-converter) has been developed and integrated into a 0.72-cubic-inch module. The 2-6-GHz limiting amplifier provides 12 dBm constant output power, the quadrature IF mixer down-converts a 2-6-GHz input signal into two 1 MHz to 1 GHz quadrature IF signals, the IF amplifier provides the required gain, and a quadrature up-converter converts the IF signals to a 6-8-GHz output band. The input signal dynamic range is 50 dB. The amplitude and phase tracking performance of the two IF channels is ±0.5 dB and ±5°, respectively. The output signal is a single-sideband suppressed carrier signal. The sideband rejection is 20 dB and the LO to RF isolation is 27 dB.

❑ Return to main document.