Abstracts

A 44 GHz low noise block downconvertor MMIC suitable for EHF satellite communication applications (1998 [RFIC])

A.R. Barnes, D.C. Bannister and M.T. Moore. "A 44 GHz low noise block downconvertor MMIC suitable for EHF satellite communication applications (1998 [RFIC])." 1998 Radio Frequency Integrated Circuits (RFIC) Symposium 98. (1998 [RFIC]): 223-226.

A multifunction MMIC, containing the core components required for an EHF satellite communications receiver, operating over 43.5 to 45.5 GHz, has been designed and tested. The circuit has been fabricated using a high yield, commercially available, 0.25 /spl mu/m PHEMT GaAs-InGaAs-AlGaAs foundry process at GEC Marconi Materials Technology Ltd. The multifunction MMIC integrates a low noise amplifier, downconvertor, local oscillator doubler and buffer amplifier onto a single chip occupying an area of 3.0/spl times/3.8 mm/sup 2/. Successful performance was achieved for a first pass iteration, namely 4.3 dB noise figure and 5 to 8 dB conversion gain with a low local oscillator (LO) drive level of 0 dBm.

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