Abstracts

A compact coplanar W-band variable gain amplifier MMIC with wide control range using dual-gate HEMTs

A. Tessmann, W.H. Haydl, T. Krems, M. Neumann, H. Massler, L. Verweyen, A. Hulsmann and M. Schlechtweg. "A compact coplanar W-band variable gain amplifier MMIC with wide control range using dual-gate HEMTs." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 685-688.

A W-band variable gain amplifies MMIC with 37 dB gain at 94 GHz and a gain control range of over 70 dB has been developed. The circuit consists of four dual-gate HEMT stages, using a 0.15 /spl mu/m AlGaAs-InGaAs-GaAs PM-HEMT technology. The chip was realized in coplanar technology and requires an area of only 1/spl times/3 mm/sup 2/. The resulting power gain density is 12 dB/mm/sup 2/ at 94 GHz.

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