Abstracts

Monolithic GaAs-InGaP HBT balanced vector modulators for millimeter-wave wireless systems

A.E. Ashtiani, T. Gokdemir, A. Vilches, Z. Hu, I.D. Robertson and S.P. Marsh. "Monolithic GaAs-InGaP HBT balanced vector modulators for millimeter-wave wireless systems." 2000 Radio Frequency Integrated Circuits (RFIC) Symposium 00. (2000 [RFIC]): 187-190.

This paper describes the design and performance of millimeter-wave balanced vector modulators employing the Marconi HBT MMIC technology. Two versions have been fabricated for operation at 38 GHz; the first employs normal Lange couplers whilst the second employs miniaturised microstrip couplers, which reduce the MMIC chip area by more than 40%. With a simple bias calibration technique the circuits achieve near-perfect constellations with negligible amplitude and phase errors over a wide bandwidth.

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