Abstracts

A calibratable 4.8-5.8 GHz MMIC vector modulator with low power consumption for smart antenna receivers

F. Ellinger, U. Lott and W. Bachtold. "A calibratable 4.8-5.8 GHz MMIC vector modulator with low power consumption for smart antenna receivers." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1277-1280.

A highly integrated 4.8-5.8 GHz vector modulator MMIC using a 0.6 /spl mu/m GaAs MESFET foundry process is presented. Variable gain amplifiers with amplitude control ranges of 35 dB are applied to enable continuous amplitude and phase control of 15 dB and 360/spl deg/ by combining three vectors with phase offsets of 120/spl deg/. Maximum gain is 0 dB. The maximum current consumption using a 2.7 V voltage supply is only 3.2 mA. A calibration procedure is proposed to significantly improve the yield and the operation bandwidth.

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