Abstracts

Application of the Two-Way Balanced Amplifier Concept to Wide-Band Power Amplification Using GaAs MESFET's

K.B. Niclas, W.T. Wilser, R.B. Gold and W.R. Hitchens. "Application of the Two-Way Balanced Amplifier Concept to Wide-Band Power Amplification Using GaAs MESFET's." 1980 Transactions on Microwave Theory and Techniques 28.3 (Mar. 1980 [T-MTT]): 172-179.

An X-band GaAs FET power amplifier has been developed, significantly extending the bandwidth capabilities of such amplifiers reported to date. An output power of 1 W with an associated gain of 7.7 dB was achieved from 7.25 to 12.0 GHz by means of combining the power of two amplifier modules. Each of these modules consist of two balanced submodules cascaded to a two-stage unit. The transistor used in the "two-way balanced amplifier" has gate dimensions of 1000x1 µm. The technology, RF performance, and characterization of the transistor are discussed in detail, as are the design and performance of both the single-ended and two-way balanced amplifier modules.

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