Abstracts

A Technique for the Maintenance of FET Power Amplifier Efficiency Under Backoff

B.D. Geller, F.T. Assal, R.K. Gupta and P.K. Cline. "A Technique for the Maintenance of FET Power Amplifier Efficiency Under Backoff." 1989 MTT-S International Microwave Symposium Digest 89.3 (1989 Vol. III [MWSYM]): 949-952.

An operational technique for FET power amplifiers, which allows the maintenance of high efficiency as the amplifier is backed off from its rated output power level, is described. Using this technique, an experimental, single-stage, 1-W, C-band amplifier, capable of 65 percent power-added efficiency at its rated output power, maintains a minimum efficiency of 55 percent for a 10-dB output backoff range. Comparable amplifiers operating under conventional Class B or Class A demonstrate efficiencies of about 18 and 4 percent, respectively. An analytic basis for the technique is given. Experimental results are also presented for a three-stage, 2-W, C-band amplifier.

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