Abstracts

Microwave power amplifier efficiency improvement with a 10 MHz HBT DC-DC converter

G. Hanington, P.F. Chen, V. Radisic, T. Itoh and P.M. Asbeck. "Microwave power amplifier efficiency improvement with a 10 MHz HBT DC-DC converter." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 589-592.

This paper presents a technique for raising power efficiency in portable wireless transmitters by integrating a variable voltage output DC-DC converter together with a MESFET RF power amplifier. Significant increases in power efficiency are obtainable over a large range of output power levels. The system includes an envelope detector, a closed feedback loop, and a pulse width modulator operating at 10 MHz. A 300 mW transmitter is shown for which battery life can be extended by over 1.4 times.

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