Abstracts

Wide-band CDMA highly-efficient heterojunction FET over wide range output power with DC-DC converter

T.B. Nishimura, N. Iwata and G. Hau. "Wide-band CDMA highly-efficient heterojunction FET over wide range output power with DC-DC converter." 1999 MTT-S International Microwave Symposium Digest 99.3 (1999 Vol. III [MWSYM]): 1091-1094 vol.3.

1.95 GHz Wide-band CDMA performance of a 19.2 mm gate width heterojunction FET (HJFET) over a wide range output power (P/sub out/) is described. Operated at 3.5 V and a quiescent drain current (I/sub q/) of 50 mA, the HJFET exhibited 54.0% power added efficiency (PAE) with 580 mW (27.6 dBm) P/sub out/ and 10.4 dB associate gain at the distortion criteria. Utilizing a DC-DC converter as a drain bias supply, the FET achieved 21.0% PAE which includes the conversion efficiency at 20 mW P/sub out/ under a drain bias voltage of 1.0 V and I/sub q/ of 2 mA (Class B operation). The HJFET with a DC-DC converter is promising for power amplifier application of the W-CDMA cellular phones.

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