Abstracts

A 3.2 V, 45% efficient, novel Class AB+C CDMA MMIC power amplifier using quasi enhancement mode PHEMTs

J. Cao, X.W. Wang, C.K. Quek, R. Singh and H. Nakamura. "A 3.2 V, 45% efficient, novel Class AB+C CDMA MMIC power amplifier using quasi enhancement mode PHEMTs." 2000 Radio Frequency Integrated Circuits (RFIC) Symposium 00. (2000 [RFIC]): 93-96.

This paper presents a novel power amplifier (PA) configuration (Class AB+C) which allows low quiescent current and thereby high PAE at low output power levels to be achieved without compromising high power linearity. The designed 800 MHz CDMA PA using quasi enhancement PHEMT process attained over 45% PAE, 0.8-watt output power and 33 dB gain at -43 dBc adjacent channel power rejection (ACPR), at a supply voltage of 3.2 V. The total quiescent current consumed is only 52 mA. In contrast, the conventional Class AB configuration required 82 mA to achieve similar performance.

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