Abstracts

A 50% efficiency InGaP/GaAs HBT power amplifier module for 1.95 GHz wide-band CDMA handsets

T.B. Nishimura, M. Tanomura, K. Azuma, K. Nakai, Y. Hasegawa and H. Shimawaki. "A 50% efficiency InGaP/GaAs HBT power amplifier module for 1.95 GHz wide-band CDMA handsets." 2001 Radio Frequency Integrated Circuits (RFIC) Symposium 01. (2001 [RFIC]): 31-34.

A 0.1 cc high-efficiency power amplifier multi-chip module (MCM) has been developed using InGaP/GaAs heterojunction bipolar transistors (HBTs) for 1.95 GHz wide-band CDMA handsets. Under 3.5 V operation, the MCM achieved an output power P/sub 0ut/ of 26.3 dBm, an excellent power-added efficiency (PAE) of 50.5%, and a high associated gain G/sub a/ of 28.5 dB with an adjacent channel leakage power ratio (ACPR) of -35 dBc at a 5 MHz off-center frequency band. The MCM also exhibited excellent PAEs of more than 40% even at a low supply voltage of 1.5 V.

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