Abstracts

3.5 V operation driver-amplifier MMIC utilizing SrTiO/sub 3/ capacitors for 1.95 GHz wide-band CDMA cellular phones

T.B. Nishimura, N. Iwata, K. Yamaguchi, K. Takemura and Y. Miyasaka. "3.5 V operation driver-amplifier MMIC utilizing SrTiO/sub 3/ capacitors for 1.95 GHz wide-band CDMA cellular phones." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 447-450.

This paper describes 1.95 GHz Wide-band Code Division Multiple Access power performance of a two-stage driver amplifier MMIC with 1.0/spl times/1.5 mm/sup 2/ area, in which double-doped AlGaAs/InGaAs/AlGaAs FETs and SrTiO/sub 3/ capacitors are utilized. Operated at 3.5 V with gate bias conditions chosen to reduce distortion, the complete MMIC delivered an adjacent channel leakage power ratio (ACPR) of -47.3 dBc at 5 MHz off-center frequency and an output power (P/sub out/) of 73 mW (18.6 dBm) with a power-added efficiency (PAE) of 11.1% and an associated gain of 23.5 dB. A maximum PAE of 33.2% was obtained with P/sub out/ of 113 mW (20.5 dBm) at ACPR of -42.0 dBc.

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