Abstracts

An L-band high-efficiency and low-distortion power amplifier using HPF/LPF combined interstage matching circuit

K. Mori, S. Shinjo, F. Kitabayashi, A. Ohta, Y. Ikeda and O. Ishida. "An L-band high-efficiency and low-distortion power amplifier using HPF/LPF combined interstage matching circuit." 2000 Transactions on Microwave Theory and Techniques 48.12 (Dec. 2000 [T-MTT] (Special Issue on 2000 International Microwave Symposium)): 2560-2566.

An L-band high-efficiency and low-distortion power amplifier using a high-pass filter/low-pass filter (HPF/LPF) combined interstage matching circuit is presented in this paper. An HPF/LPF combined interstage matching circuit can realize both the optimum load impedance of the driver-stage FET and the optimum source impedance of the final-stage FET to achieve high efficiency with a specified distortion. The circuit has been utilized in a three-stage high-power-amplifier module, the size of which is 0.08 cm/sup 3/ (7 mm/spl times/7 mm/spl times/1.7 mm). The amplifier achieves a power-added efficiency of 43.9% and an output power (P/sub out/) of 27.1 dBm with an adjacent channel leakage power of -38 dBc at 1.95 GHz for wide-band code-division multiple-access cellular phones.

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