Abstracts

High-Efficient Class F GaAs FET Amplifiers Operating with Very Low Bias Voltages for Use in Mobile Telephones at 1.75 GHz

C. Duvanaud, S. Dietsche, G. Pataut and J. Obregon. "High-Efficient Class F GaAs FET Amplifiers Operating with Very Low Bias Voltages for Use in Mobile Telephones at 1.75 GHz." 1993 Microwave and Guided Wave Letters 3.8 (Aug. 1993 [MGWL]): 268-270.

High-efficient class F GaAs power FET amplifiers working with a very low drain bias voltage of 3 V required by the battery cells of portable telephones is reported. The transistor used has an optimized gate periphery of 2000 µm and a gate length of 0.7 µm. Under class F operation with a drain voltage of 3 V, it has demonstrated an output power of 24.5 dBm with 71% of power-added efficiency at the operating frequency of 1.75 GHz. Output harmonic levels lower than -25 dBc have been measured. The results obtained present the state of the art published for low bias voltage, low consumption power amplifiers required for mobile-telephone systems.

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