Abstracts

Frequency limitation of a high-efficiency class E tuned RF power amplifier due to a shunt capacitance

A. Mediano and P. Molina. "Frequency limitation of a high-efficiency class E tuned RF power amplifier due to a shunt capacitance." 1999 MTT-S International Microwave Symposium Digest 99.1 (1999 Vol. I [MWSYM]): 363-366 vol.1.

Class E tuned power amplifiers and converters have been mathematically analysed to obtain equations that govern the circuit behaviour. In this paper, further study is presented leading to concepts such as optimum and maximum susceptances, which deeply analysed, result in an analytical method to determine the maximum frequency of operation for a class E amplifier with a linear shunt capacitance in order to maintain maximum efficiency operation. That shunt capacitance could be a linear equivalent of the device nonlinear voltage-dependent output capacitance.

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