# Abstracts

## Class E with parallel circuit - a new challenge for high-efficiency RF and microwave power amplifiers

*A.V. Grebennikov and H. Jaeger. "Class E with parallel circuit - a new challenge for high-efficiency RF and microwave power amplifiers." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1627-1630 vol.3.*

In this paper, a new circuit configuration of switched-mode tuned Class E power amplifiers with load network consisting of a parallel capacitance, a parallel inductance and a series resonant circuit tuned on the fundamental is defined using a detailed analytical description with a complete set of the design equations. The ideal collector voltage and current waveforms demonstrate a possibility of 100-percent efficiency. The circuit schematic of a parallel-circuit Class E power amplifier can be realized with lumped or transmission-line elements. Two examples of high power LDMOSFET and low-voltage HBT power amplifiers, utilizing a parallel-circuit Class E circuit configuration, are presented.

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