

Abstracts

Analysis and experimental waveform study on inverse class class-F mode of microwave power FETs

C.J. Wei, P. DiCarlo, Y.A. Tkachenko, R. McMorrow and D. Bartle. "Analysis and experimental waveform study on inverse class class-F mode of microwave power FETs." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 525-528.

The new inverse class F operation mode for high-efficiency power amplifiers is analyzed. Unlike regular class F, it requires an open circuit termination at the second harmonic and a small impedance termination at the third harmonic. The inverse class F features higher PAE than class F but requires transistors with higher breakdown voltages. A study performed using the waveform measurement technique in conjunction with the active/passive load-pull system showed PAE=83% for the inverse class F compared to PAE=64% for the class F. The measured results are in good agreement with the analytical prediction.

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