Abstracts

Design and validation of the load networks for broadband class E amplifiers using nonlinear device models

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Design equations for the synthesis of load networks for highly efficient broadband class E amplifiers that can provide a bandwidth exceeding 30%, are presented. The design equations take into consideration the nonlinearity of the device output capacitance. Validation for the synthesized load network is provided both through computer simulations and experimental measurement. The complete design and simulation use a comprehensive nonlinear device model that reveals the role that the large trap resistance plays in class E operation.

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