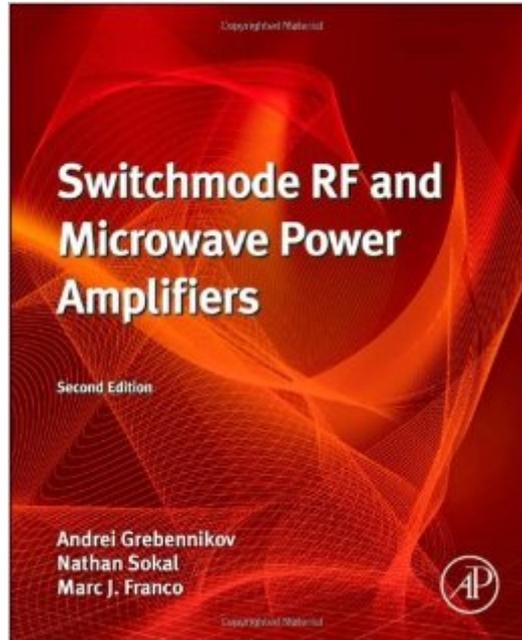


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# Switchmode RF And Microwave Power Amplifiers, Second Edition



## Synopsis

Combining solid theoretical discussions with practical design examples, this book is an essential reference on developing RF and microwave switchmode power amplifiers. With this book you will be able to:

- Design high-efficiency RF and microwave power amplifiers on different types of bipolar and field-effect transistors using well-known and novel theoretical approaches, nonlinear simulation tools, and practical design techniques
- Design any type of high-efficiency switchmode power amplifiers operating in Class D or E at lower frequencies and in Class E or F and their subclasses at microwave frequencies, with specified output power
- Understand the theory and practical implementation of load-network design techniques based on lumped and transmission-line elements
- Combine multi-stage Doherty architecture and switchmode power amplifiers to significantly increase efficiency of the entire radio transmitter
- Learn the different types of predistortion linearization techniques required to improve the quality of signal transmission in a nonlinear amplifying system

**New to this edition:** Comprehensive overview of different Doherty architectures which are, and will be used in modern communication systems to save power consumption and reduce costs  
A new chapter on analog and digital predistortion techniques  
Coverage of broadband Class-F power amplifiers, high-power inverse Class-F power amplifiers for WCDMA systems, broadband Class-E techniques  
Unique focus on switchmode RF and microwave power amplifiers that are widely used in cellular/wireless, satellite and radar communication systems and which offer major power consumption savings  
Complete coverage of the new Doherty architecture which offers major efficiencies and savings on power consumption  
Balances theory with practical implementation, avoiding a cookbook approach, enabling engineers to develop better designs  
Trusted content from leading figures in the field with a Foreword of endorsement by Zoya Popovic

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## Customer Reviews

"The main objective of this book is to present all relevant information required to design high-efficiency RF and microwave power amplifiers, including well-known and novel theoretical approaches and practical design techniques." - Microwave Journal, November 2007"

Combining solid theoretical discussions with practical design examples, this book is an essential reference on developing RF and microwave switchmode power amplifiers. Unique focus on switchmode RF and microwave power amplifiers that are widely used in cellular/wireless, satellite and radar communication systems and which offer major power consumption savings. Complete coverage of the new Doherty architecture which offers major efficiencies and savings on power consumption. Balances theory with practical implementation, avoiding a cookbook approach, enabling engineers to develop better designs. Trusted content from leading figures in the field with a Foreword of endorsement by Zoya Popovic. With this book you will be able to: Design high-efficiency RF and microwave power amplifiers on different types of bipolar and field-effect transistors using well-known and novel theoretical approaches, nonlinear simulation tools, and practical design techniques. Design any type of high-efficiency switchmode power amplifiers operating in Class D or E at lower frequencies and in Class E or F and their subclasses at microwave frequencies, with specified output power. Understand the theory and practical implementation of load-network design techniques based on lumped and transmission-line elements. Combine multi-stage Doherty architecture and switchmode power amplifiers to significantly increase efficiency of the entire radio transmitter. Learn the different types of predistortion linearization techniques required to improve the quality of signal transmission in a nonlinear amplifying system. New to this edition: • Comprehensive overview of different Doherty architectures which are, and will be used in modern communication systems to save power consumption and reduce costs. • A new chapter on analog and digital predistortion techniques. • Coverage of broadband Class-F power amplifiers, high-power inverse Class-F power amplifiers for WCDMA systems, broadband Class-E techniques.

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