Switchmode RF and Microwave Power Amplifiers, Second Edition

Andrei Grebennikov, Nathan O. Sokal, Marc J Franco
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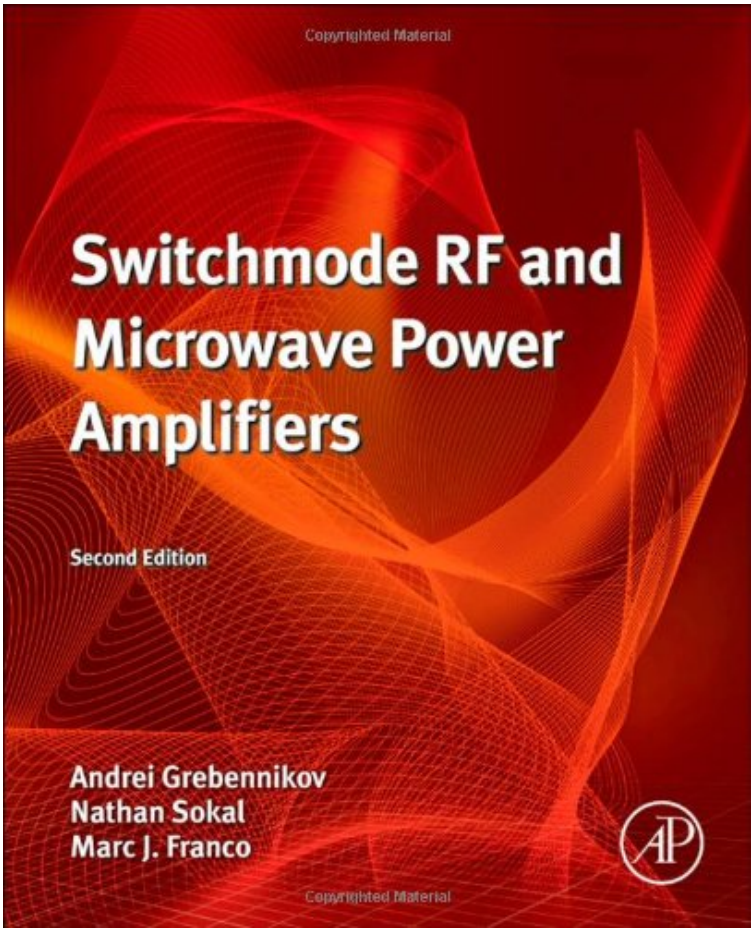

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Andrei Grebennikov, Nathan O. Sokal, Marc J Franco : Switchmode RF and Microwave Power Amplifiers, Second Edition before purchasing it in order to gage whether or not it would be worth my time, and all praised Switchmode RF and Microwave Power Amplifiers, Second Edition:

0 of 0 people found the following review helpful. Highly recommendedBy SsoundThis book covers a lot of topics on switchmode amplifiers, including a great treatment on Class F and inverse Class F. The authors writting style is not the best, I dont know if its too formal but language seems to be an extra barrier added to the complexity of the topics. That being said, this book delivers as promised, there are even ADS examples on amplifiers which you can reproduce on your own.

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 techniquesDesign 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 powerUnderstand the theory and practical implementation of load-network design techniques based on lumped and transmission-line elementsCombine multi-stage Doherty architecture and switchmode power amplifiers to significantly increase efficiency of the entire radio transmitterLearn 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 costsA new chapter on analog and digital predistortion techniquesCoverage of broadband Class-F power amplifiers, high-power inverse Class-F power amplifiers for WCDMA systems, broadband Class-E techniquesUnique 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 savingsComplete coverage of the new Doherty architecture which offers major efficiencies and savings on power consumptionBalances theory with practical implementatation, avoiding a cookbook approach, enabling engineers to develop better designsTrusted content from leading figures in the field with a Foreword of endorsement by Zoya Popovic

""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"From the Back CoverCombining 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 implementatation, 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 About the AuthorDr. Andrei Grebennikov is a Senior Member of the IEEE and a Member of Editorial Board of the International Journal of RF and Microwave Computer-Aided Engineering. He received his Dipl. Ing. degree in radio electronics from the Moscow Institute of Physics and Technology and Ph.D. degree in radio engineering from the Moscow Technical University of Communications and Informatics in 1980 and 1991, respectively.He has obtained a long-term academic and industrial experience working with the Moscow Technical University of Communications and Informatics, Russia, Institute of Microelectronics, Singapore, M/A-COM, Ireland, Infineon Technologies, Germany/Austria, and Bell Labs, Alcatel-Lucent, Ireland, as an engineer, researcher, lecturer, and educator.He lectured as a Guest Professor in the University of Linz, Austria, and presented short courses and tutorials as an Invited Speaker at the International Microwave Symposium, European and Asia-Pacific Microwave Conferences, Institute of Microelectronics, Singapore, and Motorola Design Centre, Malaysia. He is an author or co-author of more than 80 technical papers, 5 books, and 15 European and US patents.In 1989, Mr. Sokal was elected a Fellow of the IEEE, for his contributions to the technology of high-efficiency switching-mode power conversion and switching-mode RF power amplification. In 2007, he received the Microwave Pioneer award from the IEEE Microwave Theory and Techniques Society, in recognition of a major, lasting, contribution development of the Class-E RF power amplifier. In 2011, he was awarded an honorary doctorate from the Polytechnic University of Madrid, Spain, for developing the high-efficiency switching-mode Class-E RF power amplifierIn 1965, he founded Design Automation, Inc., a consulting company doing electronics design review, product design, and solving unsolvable problems for equipment-manufacturing clients. Much of that work has been on high-efficiency switching-mode RF power amplifiers at frequencies up to 2.5 GHz, and switching-mode dc-dc power converters. He holds eight patents in power electronics, and is the author or co-author of two books and approximately 130 technical papers, mostly on high-efficiency generation of RF power and dc power.During 19501965, he held engineering and supervisory positions for design, manufacture, and applications of analog and digital equipment.He received B.S. and

M.S. degrees in Electrical Engineering from the Massachusetts Institute of Technology, Cambridge, Massachusetts, in 1950.He is a Technical Adviser to the American Radio Relay League, on RF power amplifiers and dc power supplies, and a member of the Electromagnetics Society, Eta Kappa Nu, and Sigma Xi honorary professional societies.Marc J. Franco holds a Ph.D. degree in electrical engineering from Drexel University, Philadelphia. He is currently with RFMD, Technology Platforms, Component Advanced Development, Greensboro, North Carolina, USA, where he is involved with the design of advanced RF integrated circuits and integrated front-end modules. He was previously with Linearizer Technology, Inc. Hamilton, New Jersey, where he led the development of advanced RF products for commercial, military and space applications.Dr. Franco is a regular reviewer for the Radio Wireless Symposium, the European Microwave Conference and the MTT International Microwave Symposium. He is a member of the MTT-17 HF-VHF-UHF Technology Technical Coordination Committee and has co-chaired the IEEE Topical Conference on Power Amplifiers for Radio and Wireless Applications. He is a Senior Member of the IEEE.His current research interests include high-efficiency RF power amplifiers, nonlinear distortion correction, and electromagnetic analysis of structures.