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Autore	Wang Zhancang
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Nota di contenuto	Intro; High-Efficiency Load Modulation Power Amplifiers for Wireless Communications; Contents; Preface; Acknowledgments; Chapter 1 Call for Efficient Power Amplification; 1.1 Figures of Merit of a Modern Radio Power Amplifier; 1.1.1 Output Power; 1.1.2 Power Gain; 1.1.3 Power Added Efficiency; 1.1.4 Bandwidth; 1.1.5 Linearity; 1.2 Evolution of Communication Signals; 1.2.1 History and Trends of Communication Signals; 1.2.2 Effect of Signal Evolution on PAPR; 1.2.3 Effect of High PAPR on Figures of Merit for PAs; 1.3 Efficient Amplification with Modulation; 1.3.1 Bias Modulation Amplifiers 1.3.2 Load Modulation AmplifiersReferences; Select Bibliography; Chapter 2 Passive Load Impedance Tuner Design; 2.1 Specification of Passive Load Impedance Tuners; 2.2 Selection of Tuning Elements for Passive Impedance Tuners; 2.3 Microwave Varactors; 2.3.1 Varactors for Dynamic Load Modulation; 2.3.2 MEMS Varactors; 2.3.3 BST Varactors; 2.3.4 Silicon Varactor Diodes; 2.3.5 GaAs Varactor Diodes; 2.3.6 SiC Varactor Diodes; 2.3.7 GaN Varactor Diodes; 2.4 High-Performance Varactor Stacks; 2.4.1 Distortion-Free Varactor Stack; 2.4.2 Wide Tone Spacing Varactor Stack 3.4 PA Design for Dynamic Load3.4.1 Dynamic Load Class-AB Amplifier; 3.4.2 Dynamic Load Saturated Class-B Amplifier; 3.4.3 Dynamic Load Class-C Amplifier; 3.4.4 Dynamic Load Class-D Amplifier; 3.4.5 Dynamic Load Class-E Amplifier; 3.4.6 Dynamic Class-

F Amplifier; 3.5 Digital Signal Processing for Dynamic Load; 3.5.1 Timing Alignment for Dynamic Load; 3.5.2 Bandwidth Reduction of Dynamic Load Control Signal; 3.5.3 Slew-Rate Reduction of Dynamic Load Control Signal; 3.5.4 Linearization of Dynamic Load Amplifier; 3.6 Measurement Methods for Dynamic Load Amplifiers  
3.6.1 Test Bed Sync for the Dynamic Load System 3.6.2 Continuous-Wave Versus Complex Stimulus; 3.6.3 Complex Stimulus Measurements Setup; 3.6.4 Complex Characterization Techniques; References; Selected Bibliography; Chapter 4 Active Load Modulation Power Amplifiers; 4.1 Balanced Versus Doherty; 4.2 Active Load Pulling Effect; 4.3 Active Load Amplifiers; 4.4 Doherty Amplifier; 4.4.1 Impedance Inverter; 4.4.2 Amplifier Cells; 4.4.3 Offset Lines; 4.4.4 Input Power Splitter; 4.4.5 Output Doherty Combining; 4.5 Classical Doherty Limitations and Solutions; 4.5.1 Low Breakpoint Efficiency

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Sommario/riassunto

Includes practical and cutting-edge insight, this book presents a complete and systematic overview of the practical design considerations of radio frequency (RF) high efficiency load modulation power amplifiers (PA) for modern wireless communications for 4G and beyond. --

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