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Nota di contenuto	About the Editors -- Preface -- Acknowledgements -- Part I COMPONENTS OF RFID SYSTEMS AND PERFORMANCE METRICS -- 1 Performance of Passive UHF RFID Systems in Practice (Miodrag Bolic, Akshay Athalye, and Tzu Hao Li) -- 1.1 Introduction -- 1.2 Ideal RFID System -- 1.3 Practical RFID Systems -- 1.4 Overview of the Book -- 1.5 Conclusion -- References -- 2 Performance Metrics and Operational Parameters of RFID Systems (Raj Bridelall and Abhiman Hande) -- 2.1 Overview -- 2.2 Key Operational Parameters -- 2.3 Classification of Commercially Available Products -- 2.4 Conclusion -- Problems -- References -- 3 UHF RFID Antennas (Daniel Deavours) -- 3.1 Dipoles and Relatives -- 3.2 T-Match and Relatives -- 3.3 Putting it Together: Building an RFID Tag -- 3.4 The Environment -- 3.5 Conclusions, Trends, and Challenges -- References -- 4 RFID Tag Chip Design (Na Yan, Wenyi Che, Yuqing Yang, and Qiang Li) -- 4.1 Tag Architecture Systems -- 4.2 Memory in Standard CMOS Processes --

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Sommario/riassunto

This book provides an insight into the 'hot' field of Radio Frequency Identification (RFID) Systems In this book, the authors provide an insight into the field of RFID systems with an emphasis on networking aspects and research challenges related to passive Ultra High Frequency (UHF) RFID systems. The book reviews various algorithms, protocols and design solutions that have been developed within the area, including most recent advances. In addition, authors cover a wide range of recognized problems in RFID industry, striking a balance between theoretical and practical coverage. Limitations of the technology and state-of-the-art solutions are identified and new research opportunities are addressed. Finally, the book is authored by experts and respected researchers in the field and every chapter is peer reviewed. Key Features: . Provides the most comprehensive analysis of networking aspects of RFID systems, including tag identification protocols and reader anti-collision algorithms. Covers in detail major research problems of passive UHF systems such as improving reading accuracy, reading range and throughput. Analyzes other “hot topics” including localization of passive RFID tags, energy harvesting, simulator and emulator design, security and privacy. Discusses design of tag antennas, tag and reader circuits for passive UHF RFID systems. Presents EPCGlobal architecture framework, middleware and protocols. Includes an accompanying website with PowerPoint slides and solutions to the problems (http://www.site.uottawa.ca/~mbolic/RFIDBook/) This book will be an invaluable guide for researchers and graduate students in electrical engineering and

computer science, and researchers and developers in telecommunication industry.