1. | | |
|---|---|
| Record Nr. | UNINA9911019479303321 |
| Autore | Misic Jelena |
| Titolo | Wireless personal area networks : performance, interconnections and security with IEEE 802.15.4 / / Jelena Misic and Vojislav B. Misic |
| Pubbl/distr/stampa | Chichester, England ; ; Hoboken, NJ, : Wiley, c2008 |
| ISBN | 9786611319878 |
| | 9781281319876 |
| | 1281319872 |
| | 9780470986424 |
| | 0470986425 |
| | 9780470986417 |
| | 0470986417 |
| Descrizione fisica | 1 online resource (337 p.) |
| Collana | Wiley series on wireless communications and mobile computing |
| Altri autori (Persone) | MisicVojislav B |
| Disciplina | 621.384 |
| Soggetti | Personal communication service systems - Standards |
| | Wireless LANs |
| | Bluetooth technology |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references (p. [303]-309) and index. |
| Nota di contenuto | -- About the Series Editors xi -- List of Figures xiii -- List of Tables xvii -- Preface xix -- Part I WPANS and 802.15.4 1 -- 1 Prologue: Wireless Personal Area Networks 3 -- 1.1 Wireless Ad Hoc Networks 3 -- 1.2 Design Goals for the MAC Protocol 4 -- 1.3 Classification of MAC Protocols for Ad Hoc Networks 6 -- 1.4 Contention-Based MAC Protocols 9 -- 1.5 New Kinds of Ad Hoc Networks 12 -- 1.6 Sensor Networks 12 -- 2 Operation of the IEEE 802.15.4 Network 17 -- 2.1 Physical Layer Characteristics 17 -- 2.2 Star Topology and Beacon Enabled Operation 20 -- 2.3 Slotted CSMA-CA Medium Access 22 -- 2.4 Acknowledging Successful Transmissions 24 -- 2.5 Downlink Communication in Beacon Enabled Mode 25 -- 2.6 Guaranteed Time Slots 28 -- 2.7 Peer-to-Peer Topology and Non-Beacon Enabled Operation 29 -- 2.8 Device Functionality and Cluster Formation 31 -- 2.9 Format of the PHY and MAC frames 35 -- Part II Single-Cluster Networks 39 -- 3 Cluster with Uplink Traffic 41 -- 3.1 The System |

| Sommario/riassunto | Wireless Personal Area Networks provides an in-depth analysis of the recent IEEE 802.15.4 standard for low data rate wireless personal area networks (LR-WPANs), including suggestions to improve performance and comparisons with the related 802.15.1 (Bluetooth) standard. It assesses the suitability of the standard for the development and deployment of wireless sensor networks as well as providing guidance and insight into the relative advantages and disadvantages of various |

performance solutions. Wireless Personal Area Networks: . Provides a comprehensive, in-depth look at the issues surrounding WPAN network operation and performance.. Investigates multi-cluster networks and compares how they can be implemented.. Analyzes the performance of a single cluster under different traffic and power management regimes including uplink vs. downlink traffic, acknowledged vs. unacknowledged traffic, saturation vs. non-saturation, and the like.. Discusses security issues in WPANs such as different security threats, their impact on performance, standard security mechanisms, and security policies.. Compares the IEEE 802.15.4 standard with the related Bluetooth IEEE 802.15.1 standard in terms of suitability for implementing wireless sensor networks. This reference is a valuable tool for developers and researchers getting acquainted with various aspects of IEEE 802.15.4 technology. Graduate students studying courses such as Performance Evaluation, Wireless Sensor Networks and Queuing Theory will also find this book very insightful.