

1. Record Nr.	UNINA9910830347403321
Titolo	WirelessMAN : inside the IEEE 802.16 standard for wireless metropolitan area networks // Carl Eklund ... [et al.]
Pubbl/distr/stampa	New York : , : IEEE Press, , 2006 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2006]
ISBN	1-118-12806-0 1-118-09887-0
Descrizione fisica	1 PDF (xl, 400 pages) : illustrations
Collana	IEEE standards wireless networks series
Classificazione	ST 200
Altri autori (Persone)	EklundCarl <1970->
Disciplina	621.384
Soggetti	Metropolitan area networks (Computer networks) IEEE 802.16 (Standard) Wireless communication systems Electrical & Computer Engineering Engineering & Applied Sciences Telecommunications
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references (p. 387-391) and index.
Nota di contenuto	List of Figures xxvii -- List of Tables xxxi -- Acronyms and Abbreviations xxxiii -- Chapter 1 Broadband wireless access (BWA) -- Applicable market segments and requirements 1 -- Commercial fixed broadband wireless: fiber extention 6 -- Residential fixed broadband wireless: digital subscriber line (DSL) and cable modem alternative 8 -- Quality of service (QoS) 11 -- Throughout requirements 11 -- Chapter 2 IEEE 802.16 standards -- The working group and documents 13 -- Background 13 -- IEEE Standards Association (IEEE-SA) 13 -- IEEE 802.16; LAN/MAN Standards Committee (LMSC) 15 -- Standards development in IEEE 802.16 -- IEEE 802.16 Working Group: Overview 19 -- IEEE 802.16 Working Group: History 19 -- Technical progress in IEEE 802.16 Working Group 21 -- Coexistence: IEEE Std 802.16.2 27 -- Chapter 3 Basic concepts and definitions -- Wireless protocol and communication concepts 29 -- Frequency bands 30 -- Types of wireless networks 33 -- Wireless network topologies 34 -- RF propagation 36 -- Antennas 40 -- Physical layer (PHY) 48 --

Duplexing, multiplexing, and multiple access 49 -- Data units 56 -- Quality of service (QoS) 57 -- Medium access control layer (MAC) 62 -- Chapter 4 IEEE 802-16 architecture -- Overview and key features 67 -- Reference model 68 -- Base station (BS) and subscriber station (SS) 71 -- Convergence sublayer (CS) architecture 73 -- Framing and duplexing 74 -- Subscriber-level adaptive PHY 84 -- Framed PHY 85 -- MAC efficiency 85 -- Mesh 87 -- Directed mesh 88 -- Quality of service (QoS) 88 -- Security sublayer 89 -- Automatic repeat request (ARQ) 90 -- Physical layer (PHY) 93 -- Mandatory and optional components 94 -- Bit ordering 98 -- Chapter 5 Convergence sublayers (CSs) -- Support for multiple protocol transport 99 -- ATM CS 99 -- Packet convergence sublayer (PCS) 101.

Chapter 6 MAC basics -- Concepts, connections, formats, and headers 107 -- Connections and addressing 107 -- MAC headers and subheaders 113 -- MAC header demultiplexing 118 -- MAC subheaders 119 -- ARQ feedback 125 -- Data and management PDU construction 125 -- Simple MPDU 125 -- Subheader ordering 126 -- ARQ blocks 127 -- Fragmentation 129 -- Packing 131 -- Concatenation 135 -- MPDU encryption and CRC 135 -- MAC management 136 -- ARQ 137 -- Hybrid automatic repeat request (HARQ) 143 -- Chapter 7 MAC operation -- Radio control, QoS, and ARQ 149 -- Network entry and initialization 149 -- PHY maintenance 155 -- QoS and service flows 171 -- Interactions between QoS, CAC, and adaptive PHY 181 -- Multicast connection 189 -- BW request/grant 190 -- Scheduling 193 -- Unicast polling 197 -- Broadcast polling 199 -- Multicast polling groups 200 -- Clock comparison 201 -- ARQ operation 203 -- ARQ protocol messages 206 -- BSN comparison 207 -- ARQ transmitter 207 -- ARQ receiver 210 -- ARQ state machine reset and resynchronization 213 -- Interaction with scheduler 215 -- HARQ operation 216 -- Chapter 8 Security -- PKM protocol and cryptographic methods 219 -- Security associations (SAs) and cryptographic suites 219 -- Key management 224 -- Chapter 9 Mesh -- MAC and PHY extensions for mesh 229 -- Introduction 229 -- Logical mesh 232 -- Directed mesh and point-to-point (PtP) 244 -- Chapter 10 PHY: WirelessMAN-SC -- Single-carrier PHY for 10-66 GHz 247 -- Chapter 11 PHY: WirelessMAN-OFDM -- Multicarrier PHY for frequencies below 11 GHz 261 -- Waveform construction 261 -- Frame structure 272 -- Channel encoding 277 -- Control mechanisms 282 -- Chapter 12 PHY: WirelessMAN-OFDMA -- Multicarrier PHY for frequencies below 11 GHz 287 -- Introduction 288 -- Frame structure 300 -- Channel encoding 302 -- Control mechanisms 306 -- Chapter 13 Multiple antenna systems -- Support for advanced antennas 311 -- Adaptive antenna systems (AAS) 311 -- Open-loop transmit diversity 321 -- Closed-loop transmit diversity 324 -- Chapter 14 Performance analysis -- MAC and PHY performance and throughput 327 -- Introduction 327 -- WirelessMAN-OFDM, fixed operation 327 -- Capacity analysis 327 -- MAC performance 329 -- WirelessMAN-OFDM, mobile operation 338 -- WirelessMAN-OFDMA, mobile operation 343 -- Chapter 15 Conformance and interoperability -- Conformance standards and testing 357 -- Chapter 16 Related standards -- Other wireless standards with similar applications 365 -- IEEE Std 802.11 365 -- IEEE 802.20 working Group 373 -- IEEE 802.22 Working Group 374 -- ETSI BRAN 375 -- Other regional standards activities 378 -- Appendix A IEEE 802.16 headers, subheaders, and management messages 383 -- Bibliography 387 -- Index 393.

---

