1. Record Nr. UNINA9911019195103321 Autore Dunlop John, Prof **Titolo** Digital mobile communications and the TETRA system // John Dunlop, Demessie Girma, James Irvine Chichester, England;; New York,: Wiley, c1999 Pubbl/distr/stampa **ISBN** 9781118832585 1118832582 9781118832592 1118832590 Descrizione fisica 1 online resource (466 p.) Altri autori (Persone) GirmaDemessie **IrvineJames** Disciplina 621.3845/0218 Soggetti TETRA (Standard) Mobile communication systems - Standards Digital communications - Standards Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Note generali Reprinted, with corrections, February 2000, May 2000. Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Cover; Title Page; Contents; Preface; List of Abbreviations and Symbols; ABBREVIATIONS: 1. Principles of Digital Mobile Radio; 1.1 INTRODUCTION; 1.2 MODULATION METHODS; 1.3 FREQUENCY AND TIME DIVISION MULTIPLEXING; 1.4 ANALOGUE TO DIGITAL CONVERSION; 1.5 SPECTRAL PROPERTIES OF DIGITAL SIGNALS; 1.6 PULSE SHAPING; 1.7 DIGITAL MODULATION; 1.7.1 Amplitude Shift Keying (ASK); 1.7.2 Binary Phase Shift Keying (BPSK); 1.7.3 Differential Phase Shift Keving (DPSK): 1.7.4 Quaternary Phase Shift Keving (QPSK): 1.7.5 Offset QPSK (OQPSK); 1.7.6 Differential QPSK (DQPSK); 1.7.7 /4-**DQPSK** 1.7.8 Linear Amplifiers 1.7.9 Frequency Shift Keying (FSK); 1.7.10 Minimum Shin Keving (MSK): 1.7.11 MSK Considered in Tenns of Phase Modulation; 1.7.12 Bandwidth of GMSK; 1.7.13 m-ary Modulation; 1.8 PULSE SHAPING IN CARRIER MODULATED SYSTEMS; 1.9 BANDWIDTH EFFICIENCY; 1.10 THE RADIO ENVIRONMENT; 1.11 PLANE EARTH

PROPAGATION MODEL; 1.12 FAST FADING; 1.13 SLOW FADING; 1.14 PATHLOSS MODELS; 1.15 LINK BUDGETS; 1.16 FADING IN DIGITAL

MOBILE COMMUNICATIONS; 1.17 THE CELLULAR CONCEPT; 1.18 TYPICAL CELL OPERATION: 1.19 CAPACITY OF A CELLULAR SYSTEM; 1.20 FREQUENCY RE-USE DISTANCE 1.21 CELLULAR COVERAGE1.22 SECTORING; 1.23 STATISTICAL ISSUES; 1.24 CONCLUSIONS; REFERENCES; 2. Public Digital Mobile Radio Systems and Environment; 2.1 DIGITAL CELLULAR RADIO; 2.2 TIIE GLOBAL SYSTEM FOR MOBILE COMMUNICATIONS (GSM): 2.3 THE GSM NETWORK ARCHITECTURE; 2.4 THE GSM RADIO INTERFACE; 2.5 LOGICAL CHANNELS IN GSM; 2.5.1 Burst Structure for GSM; 2.5.2 Mapping of Logical Channels in GSM; 2.5.3 Mapping or Traffic Channels and Associated Control Channels; 2.5.4 Mapping of the BCCHICCCH; 2.5.5 Mapping of the SOCCHISACCH; 2.5.6 Mapping of Logical Channels in Low Capacity Systems 2.6 SECURITY IN GSM2.6.1 Authentication; 2.6.2 Encryption; 2.6.3 User Identity Protection: 2 6.4 Sequence of Events: 2.7 OPERATION OF THE GSM SYSTEM; 2.7.1 Location Updating; 2.7.2 Call Establishment from a Mobile; 2.7.3 Call Establishment to a Mobile; 2.7.4 Call Release; 2.8 VOICE CODING IN GSM; 2.9 NON VOICE SERVICES; 2.9.1 Data Transmission Transparent Mode: 2.9.2 Data Transmission (Non-Transparent Mode); 2.9.3 The GSM Short Message Service; 2.10 ERROR PROTECTION; 2.10.1 Channel Coding in GSM; 2.10.2 Interleaving; 2.11 HANDOVER IN GSM; 2.12 GSM HANDOVER MEASUREMENTS 2.13 FEATURES OF THE GSM SYSTEM2.13.1 Adaptive Frame Alignment; 2.13.2 Adaptive Power Control; 2.13.3 Slow Frequency Hopping; 2.13.4 Discontinuous Transmission and Reception (DTX): 2.13.5 GSM Evolution; 2.14 CORDLESS COMMUNICATION SYSTEMS; 2.15 THE DIGITAL ENHANCED CORDLESS TELECOMMUNICATIONS SYSTEM (DECT); 2.16 VOICE CODING IN DECT; 2.17 THE DECT PHYSICAL LAYER; 2.18 DECT MEDIUM ACCESS CONTROL; 2.19 CALL MANAGEMENT IN DECT; 2.20 HANDOVER IN DECT; 2.21 DYNAMIC CHANNEL SELECTION (DCS); 2.22 SPREAD SPECTRUM SYSTEMS; 2.23 CODE DIVISION MULTIPLE ACCESS; 2.23.1 Power Control; 2.23.2 Diversity 2.23.3 Frequency Diversity

Sommario/riassunto

TETRA is a system for mobile wireless communications and this is a highly topical and comprehensive introduction to the design and applications of TETRA systems including practical examples. TETRA is comparable in structure to the world-wide successful GSM system, however, individual features of TETRA are different, often more efficient and better designed than in GSM. TETRA is therefore providing an important source for the further development of standards for mobile telecommunications. This volume is timely and one of the first to cover TETRA and related subject areas. Features