

1. Record Nr.	UNINA9910143589103321
Autore	Graham Adrian W
Titolo	Mobile radio network design in the VHF and UHF bands [[electronic resource]] : a practical approach / / Adrian W. Graham, Nicholas C. Kirkman, Peter M. Paul
Pubbl/distr/stampa	Chichester, West Sussex ; ; Hoboken, NJ, : John Wiley, 2007
ISBN	1-280-73997-5 9786610739974 0-470-05912-5 0-470-05911-7
Descrizione fisica	1 online resource (423 p.)
Altri autori (Persone)	KirkmanNicholas C PaulPeter M
Disciplina	621.3845
Soggetti	Wireless communication systems Shortwave radio Electronic books.
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 and index.
Nota di contenuto	Mobile Radio Network Design in the VHF and UHF Bands; Contents; Foreword; Preface; Glossary; PART ONE; 1. Introduction; 1.1 Mobile Radio Network Design in the Modern World; 1.2 Network Stakeholders; 1.3 Spectrum Coexistence; 1.4 The Network Design Activity; 1.5 Project Resources; 1.6 Validation and Verification; 1.7 Evolving Needs; 1.8 A Practical Approach, Not the Practical Approach; 2. Spectrum and Standards; 2.1 Introduction; 2.2 International Spectrum Management; 2.2.1 The International Telecommunications Union; 2.2.2 ICAO; 2.3 Regional Bodies; 2.3.1 CEPT; 2.3.2 CITEL 2.3.3 Regional Commonwealth in the Field of Communications2.3.4 Asia-Pacific Telecommunity; 2.3.5 Gulf Cooperation Council; 2.3.6 African Telecommunications Union; 2.3.7 National Bodies; 2.4 Other Useful Bodies; 2.4.1 Introduction; 2.4.2 ETSI; 2.4.3 COST; 2.4.4 IEEE; 2.4.5 IET; 2.4.6 NTIS; 2.4.7 NTIA and ITS; 3. Mobile Radio Technologies; 3.1 Introduction; 3.2 Mobile Radio Network Users and Networks; 3.3 Types of Mobile Network; 3.4 Direct Mode; 3.5 Single Site; 3.6

Simulcast; 3.7 Trunked Radio Systems; 3.8 Cellular Systems; 3.9 Composite Systems; 3.10 Other Approaches
 3.11 Fixed and Mobile Convergence
 4. The Mobile Environment Part 1: Propagation Mechanisms and Modelling; 4.1 Introduction; 4.2 The Electromagnetic Spectrum; 4.3 Propagation Mechanisms at VHF and UHF; 4.3.1 Distance; 4.3.2 Reflection; 4.3.3 Scattering; 4.3.4 Refraction; 4.3.5 Diffraction; 4.3.6 Absorption; 4.4 Introduction to Propagation Modelling; 4.5 Point-to-Area Models; 4.5.1 General Properties of Point-to-Area Models; 4.5.2 ITU-R P.370 and ITU-R P.1546; 4.5.3 Okumura-Hata, COST 231 Hata and Other Point-to-Area Models; 4.5.4 IF-77 and ITU-R P.528 Models; 4.5.5 Other Point-to-Area Models
 4.6 Point-to-Point Models
 4.6.1 General Properties of Point-to-Point Models; 4.6.2 Bullington Method; 4.6.3 Epstein-Peterson Method; 4.6.4 Edwards and Durkin Method; 4.6.5 Deygout Method; 4.6.6 ITU-R P.526 Model; 4.7 Hybrid Models; 4.8 Radio Clutter in Propagation Models; 4.9 Tuning Propagation Models; 4.10 Factors in Model Selection; 4.10.1 Introduction; 4.10.2 Frequency Range; 4.10.3 Link Length; 4.10.4 Radio Environment; 4.10.5 Antenna Height; 4.10.6 The Application; 4.10.7 Available Data; 4.11 Abnormal Propagation Conditions; 4.12 Propagation Model Summary; References and Further Reading
 5. The Mobile Environment Part 2: Fading, Margins and Link Budgets
 5.1 Introduction; 5.1.1 Statistics Relevant for Fading; 5.1.2 Lognormal Distribution; 5.1.3 Rayleigh Distribution; 5.1.4 Ricean Distribution; 5.1.5 Other Statistical Distributions; 5.2 Slow Fading; 5.2.1 Slow Fading (Shadowing) Mechanisms; 5.2.2 Slow Fading and Propagation Model; 5.3 Fast Fading; 5.3.1 Fast Fading Mechanisms; 5.4 Receiver Antenna Environment - Body Loss and Other Factors; 5.5 Elements of a Radio Link; 5.5.1 Generic Link Diagram; 5.5.2 Nominal Power; 5.5.3 Feeder and Connector Losses
 5.5.4 Tuning Units, Amplifiers and Combiners

Sommario/riassunto

An essential element of radio technology and propagation is how to use radio technology and knowledge of radio propagation to design a network that meets the needs of customers. Mobile Radio Network Design in the VHF and UHF Bands provides the technical and fundamental knowledge required for advanced mobile radio network design to achieve this in terms that the engineer will understand, and augments this with essential information gleaned from the authors' extensive experience in mobile radio network design. In this book you will find out how some of the most highly-regarded radio ne