

# Digital Communication Systems Engineering with Software-Defined Radio (Mobile Communications)

By Alexander M. Wyglinski, Di Pu



**Digital Communication Systems Engineering with Software-Defined Radio** (**Mobile Communications**) By Alexander M. Wyglinski, Di Pu

This unique resource provides you with a practical approach to quickly learning the software-defined radio concepts you need to know for your work in the field. By prototyping and evaluating actual digital communication systems capable of performing over-the-air wireless data transmission and reception, this volume helps you attain a first-hand understanding of critical design trade-offs and issues. Moreover you gain a sense of the actual real-world operational behavior of these systems.

With the purchase of the book, you gain access to several ready-made Simulink experiments at the publisher s website. This collection of laboratory experiments, along with several examples, enables you to successfully implement the designs discussed the book in a short period of time. These files can be executed using MATLAB version R2011b or later.

Contents: What is SDR? Signal & System Overview. Probability Review. Digital Communications Review. Basic SDR Implementation of a Transmitter and a Receiver. Receiver Structure and Waveform Synthesis of a Transmitter and a Receiver. Multi-Carrier Modulation. Spectrum Sensing Techniques. Synchronization. Appendices.





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About the Author

Alexander M. Wyglinski is an assistant professor in the Department of Electrical and Computer Engineering at the Worcester Polytechnic Institute. He holds an M.S. in electrical engineering from Queen s University and a Ph.D. in electrical engineering from McGill University.

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