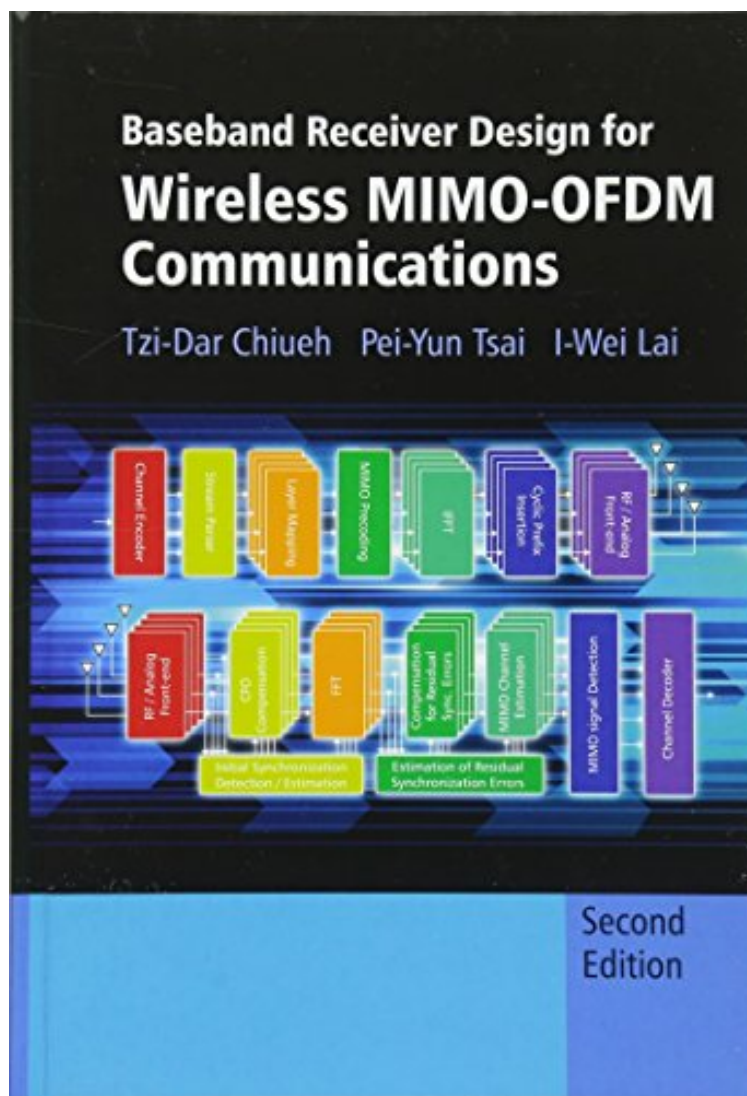


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(Ebook free) Baseband Receiver Design for Wireless MIMO-OFDM Communications

## Baseband Receiver Design for Wireless MIMO-OFDM Communications

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examples. The authors cover the full range of OFDM technology, from theories and algorithms to architectures and circuits. The book gives a concise yet comprehensive look at digital communication fundamentals before explaining signal processing algorithms in receivers. The authors give detailed treatment of hardware issues - from architecture to IC implementation. Links OFDM and MIMO theory with hardware implementation Enables the reader to transfer communication received concepts into hardware; design wireless receivers with acceptable implementation loss; achieve low-power designs Covers the latest standards, such as DVB-T2, WiMax, LTE and LTE-A Includes more baseband algorithms, like soft-decoding algorithms such as BCJR and SOVA Expanded treatment of channel models, detection algorithms and MIMO techniques Features concrete design examples of WiMAX systems and cognitive radio applications Companion website with lecture slides for instructors Based on materials developed for a course in digital communication IC design, this book is ideal for graduate students and researchers in VLSI design, wireless communications, and communications signal processing. Practicing engineers working on algorithms or hardware for wireless communications devices will also find this to be a key reference.

From the Back CoverThe second edition to OFDM Baseband Receiver Design for Wireless Communications , this book expands on the earlier edition with enhanced coverage of MIMO techniques, additional baseband algorithms, and more IC design examples. The authors cover the full range of OFDM technology, from theories and algorithms to architectures and circuits. The book gives a concise yet comprehensive look at digital communication fundamentals before explaining signal processing algorithms in receivers. The authors give detailed treatment of hardware issues from architecture to IC implementation. Links OFDM and MIMO theory with hardware implementation Enables the reader to transfer communication receiver concepts into hardware design wireless receivers with acceptable implementation loss achieve low-power designs Covers the latest standards, such as DVB-T2, WiMAX, LTE, and LTE-A Includes more baseband algorithms, such as iterative receiver and mobile OFDM equalization Contains expanded treatment of channel models and MIMO techniques Demonstrates concrete design examples of the WiMAX system Features companion website with lecture slides for instructors Based on materials developed for a course in digital communication IC design, this book is ideal for graduate students and researchers in VLSI design, wireless communications, and communications signal processing. Practicing engineers in industry working on algorithms or hardware for wireless communications devices will also find this book to be a key reference. Companion website for the book: [www.wiley.com/go/chieh/ofdm2e](http://www.wiley.com/go/chieh/ofdm2e)About the AuthorTzi-Dar Chiueh, National Taiwan University, Taiwan Tzi-Dar Chiueh is a Professor of Electrical Engineering at National Taiwan University and Director General of the National Chip Implementation Center in Hsinchu, Taiwan. He has also held visiting positions at ETH Zurich Switzerland at State University of New York at Stony Brook. Chiueh has won numerous awards, including the Acer Long-Term (11 times), the Golden Silicon Award (2002, 2005, 2007, and 2009), NTU Teaching Excellence Award (2002, 2003, 2005, 2006, 2007, and 2010), National Science Council's Outstanding Research Award (20042007), Chinese Institute of Electrical Engineers' Outstanding Electrical Engineering Professor, NTU Himax Chair Professorship (2006), and the Ministry of Economic Affairs' Outstanding Industry Contribution Award (2009). He holds a B.S. in Electrical Engineering from National Taiwan University, and an M.S and PhD in Electrical Engineering from the California Institute of Technology. Pei-Yun Tsai, National Central University, Taiwan Pei-Yun Tsai is an Assistant Professor in Electrical Engineering at National Central University. Her research interests are digital baseband communication algorithms, MIMO techniques, and low-power IC/architecture implementation for telecommunications receivers. Tsai has won a number chipset design awards. She holds a B.S, M.S. and PhD in electrical engineering from National Taiwan University. I-Wei Lai, National Taiwan University, Taiwan I-Wei Lai is with the Microsystem Research Lab at National Taiwan University. His research interests include baseband signal processing algorithms and VLSI design.