

Preface to the 2nd Edition

This book is aimed at an extremely wide range of readers. First and foremost it is intended for students and engineers who find themselves confronted with RFID technology for the first time. A few basic chapters are provided for this audience describing the functionality of RFID technology and the physical and IT-related principles underlying this field. The book is also intended for practitioners who, as users, wish to or need to obtain as comprehensive and detailed an overview of the various technologies, the legal framework or the possible applications of RFID as possible.

Although a wide range of individual articles are now available on this subject, the task of gathering all this scattered information together when it is needed is a tiresome and time-consuming one — as researching this book has proved. This book therefore aims to fill a gap in the range of literature on the subject of RFID. The need for well-founded technical literature in this field is proven by the fortunate fact that this book has now also appeared in Chinese and Japanese translation. Further information on the German version of the RFID handbook and the translations can be found on the homepage of this book, <http://RFID-handbook.com>.

This book uses numerous pictures and diagrams to attempt to give a graphic representation of RFID technology in the truest sense of the word. Particular emphasis is placed on the physical principles of RFID, which is why the chapter on this subject is by far the most comprehensive of the book. However, practical considerations are also assigned great importance. For this reason the chapter entitled ‘Example Applications’ is also particularly comprehensive.

Technological developments in the field of RFID technology are proceeding at such a pace that although a book like this can explain the general scientific principles it is not dynamic enough to be able to explore the latest trends regarding the most recent products on the market and the latest standards and regulations. I am therefore grateful for any suggestions and advice — particularly from the field of industry. The basic concepts and underlying physical principles remain, however, and provide a good background for understanding the latest developments.

Unfortunately, the market overview that was previously included has had to be omitted from the 2nd edition of the book, as the growing number of providers has made it increasingly difficult to retain an overview of the numerous transponders available on the market. However, a detailed introduction to the physical principles of UHF and microwave systems (Section 4.2), which will become increasingly important in Europe with the approval of the corresponding frequency ranges in the 868 MHz band, has been added. The chapter on standardisation has been extended in order to keep up with the rapid development in this field.

At this point I would also like to express my thanks to those companies which were kind enough to contribute to the success of this project by providing numerous technical data sheets, lecture manuscripts, drawings and photographs.

Munich, Summer 2002

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